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The purpose of this research is to compare the quality of life of North Carolina's urban and rural counties based on traditional measurable variables, and to analyze how regional development has enhanced both quality of life and economic development in both urban and rural counties. Labor and employment, educational attainment, health and wellness and population and demographic variables are used to rank all 100 counties and a comparison of means are gathered to articulate the quality of life differences in urban and rural counties. A questionnaire sent to professional county level officials and the latest available annual reports for all seven of the state appointed economic development partnerships provide the data to analyze the impact regional development has on quality of life for urban and rural counties.

The results indicate that North Carolina's urban counties rank higher than rural counties in all the indicators used with the exception of those with a negative connotation and the rural counties in close proximity to urban counties rank higher than those further away and regionalism has been beneficial statewide in terms of labor/employment and education. These are the two quality of life issues most important to citizens, and most addressed as seen in each region's annual report. These results indicate that regional collaboration can help rural counties increase quality of life indicators and collaboration can help improve economic development statewide.

QUALITY OF LIFE INDICATORS IN NORTH CAROLINA: GEOGRAPHIC DIFFERENCES
BETWEEN URBAN AND RURAL COUNTIES

By

Sakika Mitchell James

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Committee Chair

APPROVAL PAGE

This thesis has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

Committee Chair: _____

Committee Members: _____

Date of Acceptance by Committee

Date of Final Oral Examination

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CHAPTER I

INTRODUCTION

1.1 Problem

In a global economy even entities of a small scale must plan and explore options to add value to an area to attract and retain corporations and a talented workforce. States, counties, and cities of all sizes must identify and utilize methods to remain competitive (Florida 2010). North Carolina is among the many states affected by the economic downturn in the United States “but even in this tough environment, the state has fared better than many others. This is due to the state’s committed leadership and support for economic development and its many assets including a high quality of life, geographic location, moderate climate, skilled workforce, and extensive network of universities and community colleges” (Morgan 2009). Urban and rural counties attract citizens for various reasons; some citizens may prefer to live in a rural setting, but commute to a nearby urban county to work, and vice versa others may prefer to live in an urban setting and escape to a rural county for a weekend getaway. This thesis uses a detailed data set, regional annual reports and interviews/questionnaires with county planning professionals to assess differences in quality of life in urban and rural counties in North Carolina based on measurable traditional variables. Because quality of life is an important asset for bolstering economic development this thesis also explores ways regional development mutually benefits North Carolina’s urban and rural counties.

Political figures are aware of the importance of showing their commitment to improve quality of life for his/her constituents. Politicians seeking public office often build campaigns around variables that are considered quality of life indicators, including access to healthcare, education, and job opportunities (Bognar 2005, James and Bukenya 2005, Florida 2010). Al Gore's 1999-2000 presidential campaign combined both environmental and quality of life concerns and gave them high visibility. As he told an audience in 1999, Americans are looking for prosperity that is more than just in their bank accounts; they are looking for prosperity in their quality of life. They want growth that brings prosperity, but also protects quality of life (Neal 1999). Giving thought to quality of life when running for public office is worthwhile because local government and the services they provide contribute to community satisfaction and attachment to their place of residence (Auh and Cook 2009).

Economic development and quality of life complement each other. People often flock to an area for its quality of life, which encompasses schools, community life, pleasant landscapes and opportunities for outdoor recreation (Nzaku and Bukenya 2005). Citizens also cross county lines to work, for entertainment, and to further their education. Both rural and urban counties have factors that attract and retain citizens, and often these counties feed off of each other. Analysis of a range of objective indicators will provide a well rounded picture of quality of life in North Carolina. "In response to a number of highly visible quality of life rating studies, planning for quality of life has emerged as a widely discussed goal in local and state planning work programs. The planner's attention to quality of life represents a natural extension of traditional planning goals," (Furuseth

and Walcott 1990, pg 76). As such, development should be addressed beyond the local level.

This thesis combines two themes by first comparing the quality of life of North Carolina's urban and rural counties based on more traditional measurable variables, and then analyzing how regional development has enhanced both quality of life and economic development in both urban and rural counties. Rural counties in this thesis are counties with a population density of 250 or less per square mile which is the definition used for the year 2000 U.S. Census. Quality of life has been studied with a good deal of controversy as to what variables best estimate the well being of citizens (Florida 2000, Bogner 2005, Sirgy, Michalos, Ferriss, Easterlin, Patrick and Pavot 2006, McGranahan and Wojan 2007, Epley and Menon 2007). These studies span a variety of scales and locales including urban, rural, counties and states. (Nzaku and Bukenya 2005, Dow 2006, Guhatjakurta and Stimson 2007). North Carolina-specific studies define quality of life in the state (Furusetth and Walcott, 1990), provide insight to economic development and relevant indicators (UNC Charlotte Urban Institute 2007, Morgan 2009) and rank the state's economic performance against surrounding states (NC Department of Commerce 2009).

Quality of life can impact economic development in urban and rural counties, but the affects of this impact do not stop at the county lines hence the importance of considering development on a regional level. A determination of which North Carolina counties – urban or rural – enjoy higher quality of life indicators will be considered, as well as an analysis of how a regional approach to development could be beneficial to all

counties. Regional development is considered as a means to improve quality of life in urban and rural counties, which in turn can mean economic growth and development for the entire state. Perception of an area's ability to provide the best quality of life for residents can persuade people to relocate, remain in a place, take another job, retire, or other actions. This can lead to uneven development, as experienced in Atlanta where county level growth coalitions often compete to create business-friendly environments, which can in turn make less urban areas more appealing to some citizens (Whitelegg 2005). Addressing business growth and development on a regional level could provide solutions to problems like uneven development and bring some level of success to improving quality of life and economic development to all counties in a region, both urban and rural. "Regional collaboration is essential for economic recovery because regions are the centers of competition in the new global economy" (Economic Development Administration 2011, pg 1). At some point in their life, many adults face decisions about where to live, and a number of quality of life indicators influence those decisions, a counties ability to provide the standard or quality individuals, families, retirees and people from all walks of life will in turn impact that county's development, but the regions as well.

1.2 Objective

Knowing which counties have higher quality of life indicators is the first step in analyzing what may be hindering development in lower performing counties. Ultimately, planners and governing officials need to know how to attract the right businesses and the most talented work force and citizens that will promote growth, sustain and build their

economy. Considering measurable quality of life indicators can provide direction for developers. Economic development efforts involve considering who is being served, what amenities are offered, and how to increase competitiveness. Results may indicate benefits for planners and developers who need to look outside of traditional amenities like professional sport teams, big name corporations and large scale performing arts (e.g. operas and symphonies) inducements in order to attract knowledge workers. A desirable workforce may be more interested in regions that offer a diverse population, a variety of jobs, connectivity, accessibility, water based activities, and the like (Florida 2010). Examples of planning on a regional scale will be provided from North Carolina's economic development regions to demonstrate the value it can add to a region, county, or city.

1.3 Hypotheses

The focus of this research is the quality of life in North Carolina's 100 counties. Both urban and rural counties have qualities that could attract people from different walks of life. How the counties compare in terms of quality of life indicators afford researchers the opportunity to explore ways to answer what planners and developers can do to attract and retain individuals in a given county.

I first hypothesize that *urban counties in North Carolina have higher measurable quality of life indicators than do the state's rural counties*. Urban counties typically have more amenities and resources that are necessary to both attract and retain citizens. The second hypothesis is that *embracing regional development would benefit both urban and rural counties*.

1.4 Methodology

To test the first proposed hypothesis, this research examines quality of life indicators in the following areas: (1) Labor and Employment, (2) Educational Attainment, (3) Health & Wellness and (4) Population & Demographics. Sources for the Quality of life indicators in each of these areas are as follows:

- (1) **Labor & Employment:** Unemployment Rate and Percent Professional (NC Employment Security Commission and US Census Bureau American Community Survey)– These variables provide insight on the job market by indicating how many people are currently employed, and how many of those employed are actually employed in fields that are typically higher paying positions.
- (2) **Educational Attainment:** Percent High School Diploma or Higher and Percent Bachelor’s Degree or Higher (US Census American Community Survey) – Educational attainment variables like these can indicate what type of workforce is available; a highly educated and skilled workforce can attract more specialized firms.
- (3) **Health & Wellness:** Percent Uninsured and Teen Pregnancy Rate(US Census American Community Survey and NC Department of Health and Human Services) – These variables speak to public health, higher health costs and the availability of healthcare can be of importance to citizens who are looking to relocate or remain in an area.

(4) **Population & Demographics:** Percent age eighteen to forty-four and median household income (US Census Bureau American Community Survey)

- The age variable can indicate a young and vibrant workforce and median household income can provide some insight on the midpoint of family incomes.

Counties will be ranked in each category to analyze if the majority of counties in the top twenty are urban or rural. Comparisons of the urban county means and rural county means for each chosen variable will be used to see differences in the quality of life indicators chosen. Annual reports from each of the state appointed economic development regions and data obtained via questionnaires/interviews will be used to illustrate the positive contribution regional development and collaboration has had upon quality of life throughout both urban and rural counties.

CHAPTER II

LITERATURE REVIEW

This literature review provides an overview of relevant topics for this research paper. It begins with discussing the emergence of quality of life considerations and its relevance across different areas of study. Following the discussion on the emergence and relevance of quality of life, research studies employing the same or similar variables chosen for this study are discussed to add validity to the selections made for this analysis. Next, selections discuss rural development followed by urban development in hopes of understanding what the prevalent challenges are in terms of economic development and quality of life. The final topic discussed in the literature review is placed at the end mainly because it is the topic that ties all the pieces of this research together. In the discussion on regional development the focus will be on how regionalism can improve quality of life, federal and state financial incentives that encourage and mandate regional collaboration. Sprawl and transportation demonstrate how issues can spill outside of rural or jurisdictional lines and impact development on a broader scale, again making regional collaboration and regional planning important.

2.1 Emergence of Quality of Life Research

Quality of life research emerged from research on social and economic indicators (Bognar 2005). Understanding the importance and the role of quality of life research

warrants some historical background on economic and social indicators.

According to Bognar,

The proponents of what have come to be called social indicators felt that the focus on economic indicators to evaluate social policies and measure social change was too narrow. They argued that the systematic collection of data on social indicators would be useful for forecasting and analysis, for the understanding of the causes of social trends, and for policy making and evaluation. This research direction became collectively known as the social indicators movement (2005, 561).

Today popular magazines such as *Forbes* and *Money* feature lists touting everything from “America’s Best Cities for Young Professionals” to “Best Places to Live in 2010”. These magazines often use U.S. Census information and other sources to rate cities, rural areas, college towns, and metropolitan areas based on several indicators ranging from affordable housing to job growth to the diversity of employment options. Providing these simplified lists on an annual basis has become popular among popular magazines, but research involving quality of life indicators is not new. During the early stages of the social indicators movement, researchers believed that combining economic indicators and social indicators made it possible to get a better picture of how well we live. However, there is debate regarding the use of objective or subjective indicators to best tell if a person is satisfied with their life (Ferris 2004, Bognar 2005; Sirgy, et al. 2006).

Debate also questions if objective or subjective indicators used jointly or separately provide the best research method to analyze quality of life when implementing planning strategies. Subjective indicators portray an individual’s perception or attitude,

while objective indicators are based on variables that can be measured, such as level of education, household income and the like. “The way out of the dilemma is to abandon the position that evaluations are indispensable for quality of life measurement and to retreat to the position that even though evaluations may be informative and useful, their use must be justified on a case-by-case basis,” (Bognar 2005, 579). A case can be made to use subjective and/or objective indicators (Sirgy et al.2006). While there are positive uses of social indicators, there are also ways that social or quality of life indicators can be abused (Sirgy et al.2006). They provide ten uses and abuses of social indicators (see Table 1).

Table 1 - Uses and Abuses Of Social Indicators	
1	Provide convenient numerical summaries of important features of society, but also encourage commission of The Number-Crunchers’ Fallacy, which is this: Anything that cannot be counted is unimportant and anything that can be counted is important.
2	Can be used to predict and alter future behavior, for better or worse depending on the nature of the behavior and the alterations.
3	Can give visibility to problems, and also create them by focusing attention on them, or by hiding some in the interest of emphasizing others.
4	Can help obtain balanced assessments of conditions against mere economic assessments, and can distort appropriate assessments by assuming that everything valuable can be given a price in monetary terms.
5	Can help in the evaluation of current public policy and programs, and also contribute to perverse evaluations because the statistics routinely collected may not allow decision-makers to control for important contaminating variables when they are trying to decide what has caused what.
6	Can help determine alternatives and priorities, but also allow an elite corps of statisticians and other experts to unduly influence the public agenda by providing the “official version” of the state of the world.

Table 1 - Uses and Abuses Of Social Indicators	
7	Can facilitate comparisons among nations, regions, cities, other groups and service-providers, but also encourage invidious comparisons, raising aspirations and hopes too high or not high enough.
8	Can suggest areas for research to produce new scientific theories and more knowledge about the structures and functions of systems, but also retard action because people may be unwilling to act in the absence of a perfect theory or model.
9	Can provide an orderly and common framework for thinking about social systems and social change, perhaps so orderly and common that alternatives from different points of view might be perceived as unrealistic, unthinkable, totally radical and incredible merely because they are different.
10	Can stimulate thinking about new policies and programs, or stifle such thought as a result of massive “group-thinking”.

Source: Sirgy et al, 2006, 8

2.2 *What is Quality of Life and Why is it Relevant?*

Several studies provide their definition for what quality of life should mean (Furuseth and Walcott 1990, Bognar 2005, Sirgy et al 2006, Epley and Menon 2008, Auh and Cook 2009, Jia et al 2009). Quality of life is “interpreted to be the livability in the area or as one measure of the level of attractiveness or as the absence or mitigation of family and medical issues such as teen pregnancy, disease, and quantity of poverty,” (Epley and Menon 2008, 281). Although quality of life studies and literature is plentiful there remains some debate about which indicators are best suited to determine an area’s livability. There is also research testing the correlation between objective and subjective quality of life indicators in which the results were mixed (Liao 2008).

While no one precise definition of quality of life can settle all debates, the vast amount of research dedicated to this topic speaks to its relevance in development and planning. Quality of life is relevant on many levels and across a spectrum of occupations and institutions. Those in healthcare study the quality of life of HIV patients, elderly, the poor and a list of other subjects (Epley and Menon 2007, Jia, Moriarty, and Kanarek 2009; Mammen, Bauer and Lass, 2009). The United Nations enlist quality of life studies to gauge improvement in developing countries, to compare and contrast well developed countries, and to continue dialogue on the effect technology and globalization has on Quality of life in various corners of the world (United Nations Development Program, 2010). Businesses consider quality of life when making location decisions and governments of all shapes and sizes use quality of life research to make policy decisions, direct funding, and gauge the success of programs or projects.

2.3 Valid Variables

Different arguments are made for using various indicators, but a great deal of the research uses indicators that fall into the same or similar categories used in this paper. Epley and Menon developed a new method of measuring quality of life at the local and state level suggesting that users of their method employ the following topic areas when analyzing quality of life: employment, income, education, leisure and recreation, government affairs, health, poverty, protection of the environment, and business opportunity (Epley and Menon 2007). This paper uses several indicators that fall in line with the categories suggested by Epley and Menon, including employment, income, education, and health.

Florida's work has limitations, but what is relevant concerning this research paper are the indicators analyzed to test Florida's hypothesis in urban and rural areas (McGranahan and Wojan 2007). Several indicator categories used in this research are used by McGranahan and Wojan as they discuss limitations of Florida's creative class research including employment, education and demographic statistics.

Zoltan Acs and Monika Megyesi (2009) measured the ability of the Baltimore, Maryland region to go from a traditional industrial area to a creative economy. They use Florida's research as the basis for the case study. The "creativity index" and "talent index" make up a portion of the indicators used in their studies, but demographics, housing and educational attainment are also considered, indicators which are also used in this research. Other researchers believe that "attracting the creative class is no substitute for traditional strategies such as investing in quality education, upgrading the skills of the workforce, creating new businesses, or expanding existing industries" (Donegan, Drucker, Goldstein, Lowe and Malizia 2008, 192). Although they find that Florida's research can add value to regional planning they do not believe that it is a substitute for traditional development and planning strategies. The research builds its case by comparing Florida's variables with more traditional variables and the variables' affects on economic performance in different metropolitan areas throughout the United States. The quality of life indicators in this research, such as median household income, unemployment rates, percent professional, percent high school graduates, are traditional indicators often used to measure and rank various areas. Donegan et al encourage developers to continue investing in human capital and education attainment to encourage

growth; these are areas this research also consider in analyzing quality of life in urban and rural areas and to encourage regionalism (2008).

Some literature discusses creating planning and developing strategies based on the creative class (Florida 2000). Other articles argue that research on quality of life should consider geographic location when deciding which indicators are analyzed (Donegan et al 2008) Geographic regions can take a global perspective and include regions of a country. Scales vary from a state level, metropolitan statistical areas (MSAs), counties, cities, and specific communities among others.

Jia et al (2009) conducted research on health related quality of life at the county level. While health is not the focus of this paper, it is important to note that their research used many of the same quality of life indicators to argue that certain social indicators impact health related quality of life. “Persons from counties with a higher poverty rate, unemployment rate, GINI index, mortality rate, proportion uninsured, and proportion in rural areas were more likely to have higher mean unhealthy days, while those from counties with higher median household income and education achievement were more likely to have lower mean unhealthy days,” (Moriarty et al. 2007, 436) Quality of life indicators used in this research and the health related quality of life research performed by Moriarty, et al., include indicators for unemployment rate, proportion uninsured, median household income, and education attainment (Moriarty et al. 2007). Both also occur on a county level. Moriarty concluded,

Our analysis demonstrates that counties with worse socioeconomic scores (e.g. higher poverty rate, lower median household income, lower education achievement, higher unemployment rate, and higher GINI

index), higher proportion of uninsured, high proportion of population in rural areas, and lower housing occupancy rate were associated with more unhealthy days. Some of these findings support findings from previous studies, including ecological studies and observational studies (Mortiaity et al., 2007, 436).

Research regarding health related quality of life and research investigating economic development have used the same and similar quality of life indicators to make sound arguments and to develop community based policies to improve health policies and programs.

The quality of life of the southeastern United States was the frequent subject of studies as this region experienced an increase in population following the economic boom of the late 1990s (Whitelegg 2005; Graves and Woody 2006; Dow 2006) . Much of the southeast United States is rural, thus a great deal of research is conducted to see how this area's development needs differ from the development needs of more urban areas (Lambe 2008; Southern Rural Development Center 2005; D'Agostini and Fantini 2008). Other research is conducted concerning quality of life in the southeast United States because the area's economy is shifting into areas other than just agriculture. People who migrate to rural areas are seeking areas with attractive landscapes, a sense of community, good schools and outdoor amenities, which they consider to contributing to a high quality of life (McGranahan and Sullivan 2005). Kilungu Nzaku and James Bukenya (2005) conducted research that explored the relationship between quality of life and rural development in the Southeast United States. They use research by McGranahan in their analysis. Quality of life indicator categories used and/or analyzed by Nzaku and Bukenya that are also used in this paper include indicators relating to education,

employment and income.

Unemployment leads to low per capita income and an anticipated population exodus as people move to other regions with better employment opportunities. There is also a clear, fairly sizeable, and statistically significant effect of education on per capita income, employment and population change. This result echoes the general consensus that education and training are vital for economic development. By spurring new ideas and innovations, education boosts productivity and creates new products, new firms, new jobs, and new opportunities, (Nzaku and Bukenya 2005, 97).

Quality of life indicators used to analyze urban areas and rural areas in other research are in line with the quality of life indicators used for analysis in this research.

In addition to studying specific geographic locations, there is a great deal of literature that focuses on specific groups of people (Wimberly 2010; Tovar-Murray 2010; Gee and Ponce 2010). A significant amount of research analyzes the quality of life of minorities, and some of the research shows that minorities often have lower quality of life scores than do whites. Other research analyzes specific races in specific regions (Wimberly 2010). Wimberly takes an in-depth look at the quality of life of blacks in the southern United States utilizing several of the indicators used in this research. Specifically, Wimberly compared

the Black Belt with other regions as to population size, poverty, median incomes, infant mortality, unemployment, and educational attainment beginning as early as 1980 (or 1979, for income-related data collected in 1980) and as recently as 2005, depending on county-level data availability. The analysis used data from the U.S. Census Bureau and other federal agencies (Wimberly 2010, 104).

In addition to regional analysis and racial analysis some research explores less traditional indicators. Florida encourages using the Creative Class Index, Bohemian Index, and Gay Index as guides for economic development. However, traditional indicators like those chosen for this paper continue to be used to build sound urban, rural and regional development models. The categories chosen for analysis in this research paper have stood the test of time and continue to be used in studies regarding urban, rural, and regional development. In both urban and rural areas officials and nonprofits, planners, governors, council members, and other organizations and community members aim to protect the public interest and improve the lives of those they serve.

In the state of North Carolina in both urban and rural areas two of the three major concerns included economic growth and quality education (Furuseh and Walcott 1990). Furuseh and Walcott's research "is concerned with how quality of life is defined in North Carolina and, if there are significant differences in the perception of what factors constitute quality of life between urban and rural communities" (1990, 75). Their research differs from this study in that they interview planning directors and used different jurisdictions ranging from small towns in urban counties to metropolitan statistical areas. This research uses the county as a standard of comparison and goes beyond Furuseh and Walcott's effort to define quality of life in North Carolina by placing more emphasis on how the counties compare across various indicators and then considering regional development as a means to improving quality of life.

2.4 *Rural Development*

“Quality-of-life issues have a huge impact on some of the most important votes cast in rural America – the votes that young people in rural America make with their feet. A frequent lament in many rural quarters is the loss of the best and brightest to the nation’s metroplexes” (Drabenstott 2001, 12). Planners in rural America have a host of concerns, from maintaining a tax base, retaining an educated workforce, to retraining and attracting companies to employ a diversifying workforce. In order to plan and develop relevant policies it is important to understand those you are planning for.

2.4.1 *Defining Rural*

Rural America is a lot more than farmland and countryside, but there is no single officially accepted definition for “rural”. The United States Census defines rural simply as, “All territory, population, and housing units not classified as urban” (Census Bureau, 2010). Thus to understand what the US Census considers to be rural we must know what the US Census considers urban. The US Census website’s Question and Answer Center defines urban as:

- “All territory, population, and housing units in urban areas
- A cluster of one or more block groups or census blocks, each of which has a population density of at least 1,000 people per square mile at the time
- Surrounding block groups and census blocks, each of which has a population density of at least 500 people per square mile at the time

- Less densely settled blocks that form enclaves or indentations, or are used to connect discontinuous areas with qualifying densities,” (U.S. Census Bureau Questions and Answers Center, 2010).

There are several definitions of rural even within the federal government. This can be problematic as different requirements may be used to acquire funding, perform research and for zoning and geographic classification purposes. To illustrate the variance in defining rural the following table provides a list of definitions from federal agencies.

In addition to variations in defining rural by federal agencies, states also vary in their definitions. If they do not create their own definitions, there remains variance in the federal definitions they choose to use. Researchers, nonprofits, and others all must formulate or adopt as established definition. This research paper utilizes statistics and research from both federal and state level agencies and provides definitions used by each section in the Methodology chapter of this paper.

Table 2 – Federal Rural Definitions

Definition	Definition Description	Geographic Unit Used
U.S. Census Bureau: Urban and Rural Areas	The Census Bureau’s classification of rural consists of all territory, population, and housing units located outside of urbanized areas and urban clusters. Urbanized areas include populations of at least 50,000, and urban clusters include populations between 2,500 and 50,000. The core areas of both urbanized areas and urban clusters are defined based on population density of 1,000 per square mile and then certain blocks adjacent to them are added that have at least 500 persons per square mile.	Census Block and Block Groups
Economic Research Service, U.S. Department of Agriculture and WWAMI Rural Health Research Center: Rural-Urban Commuting Areas (RUCAs)	This classification scheme utilizes the U.S. Census Bureau’s urbanized area and cluster definitions and work commuting information. The RUCA categories are based on the size of settlements and towns as delineated by the Census Bureau and the functional relationships between places as measured by tract-level work commuting data. This taxonomy defines 33 categories of rural and urban census tracts.	Census Tract, ZIP Code approximation available

Definition	Definition Description	Geographic Unit Used
U.S. Office of Management and Budget (OMB): Core Based Statistical Areas (i.e., Metropolitan and Nonmetropolitan areas)	A metropolitan area must contain one or more central counties with urbanized areas. Nonmetropolitan counties are outside the boundaries of metropolitan areas and are subdivided into two types, micropolitan areas and noncore counties. Micropolitan areas are urban clusters of 10,000 or more persons.	County
Economic Research Service, U.S. Department of Agriculture: Rural-Urban Continuum Codes (Beale Codes)	This classification scheme distinguishes metropolitan counties by the population size of their metropolitan area, and nonmetropolitan counties by degree of urbanization and adjacency to a metropolitan area or areas. All counties and county equivalents are grouped according to their official OMB metropolitan-nonmetropolitan status and further subdivided into three metropolitan and six nonmetropolitan groupings.	County

Definition	Definition Description	Geographic Unit Used
Economic Research Service, U.S. Department of Agriculture: Urban Influence Codes	This classification scheme subdivides the OMB metropolitan and nonmetropolitan categories into 2 metropolitan and 10 nonmetropolitan categories. Metropolitan counties are divided into two groups by the size of the metropolitan area. Nonmetropolitan-micropolitan counties are divided into three groups by their adjacency to metropolitan areas. Nonmetropolitan-noncore counties are divided into seven groups by their adjacency to metropolitan or micropolitan areas and whether they have their “own town” of at least 2,500 residents.	County
Office of Rural Health Policy, U.S. Department of Health and Human Services: RUCA Adjustment to OMB Metropolitan and Nonmetropolitan Definition	This method uses RUCAs 4-10 to identify small towns and rural areas within large metropolitan counties. In addition, census tracts within metropolitan areas with RUCA codes 2 and 3 that are larger than 400 square miles and have population density of less than 30 people per square mile are also considered rural.	Census Tract within OMB Metropolitan Counties

Source: Rural Assistance Center Website “What is Rural?” 2010

2.4.2 Support Favoring Rural Development

Although the definition of rural varies across different government agencies and different levels of government, the support and the call for collaboration to improve rural development is shared by many. The United States Department of Agriculture Rural Development (USDA-RD) website “About RD”

page states, “We are committed to helping improve the economy and quality of life in rural America. Through our programs, we touch rural America in many ways” (USDA-RD, 2010, Para. 1). The USDA-RD provides services ranging from loans, to grants, to technical assistance to improve the quality of life of rural individuals, businesses, and communities. President Barack Obama, has also voiced concern for rural America, and included funding in the American Recovery and Reinvestment Act (ARRA) to support rural communities. The following table outlines funding in the ARRA aimed at improving quality of life in rural America:

Table 3 - American Recovery Act Broad Support for Rural Counties	
1	The Recovery Act provides USDA with a total of \$27.6 billion, most of which will fund increased benefits to low income families through the Supplemental Nutrition Assistance Program (\$20 billion).
2	The Act also provides \$6.9 billion in discretionary appropriations for rural development activities such as construction and renovation of rural water and wastewater systems, low income housing loans, broadband infrastructure in rural areas, rural business programs, and construction of Forest Service facilities.
3	The Act provides \$800 million for biofuels research and development, loan guarantees for renewable power projects, including biomass facilities, and extends tax credits for biomass-based electricity for three additional years.
4	The Act provides \$700 million in mandatory farm disaster assistance.

Source: The Whitehouse Website, 2010

Clearly, a substantial amount of federal funds have been committed to improving quality of life and economies in rural America. There is consensus on the need for sound rural development, as rural governments face a number of development challenges.

“More than one-fifth of the nation’s people live in rural America. Rural places make up more than 90 percent of our nation’s space – places where we grow our food and where we go to play. Finally, rural America is home to more than 5,000 commercial banks, more than half the nation’s total” (Drabenstott 2001, 4). Despite the time passed since 2001, policy and planning decisions made in rural areas across the country impact a substantial amount of space, businesses, and people. Blue Earth County, Minnesota’s Commissioner Colleen Landkamer notes that many of the problems facing rural and urban counties are the same, including economic development, health care, telecommunication and transportation. Landkamer went on to call for collaboration between urban and rural counties in her state and across the nation to tackle these issues (Landkamer 2006).

2.4.3 Rural Development Themes

As funds and research are dedicated to improving life in rural America a few themes are found in the literature. Themes include rural amenities, labor, education and the best development strategies. One of the key features of rural areas is the abundance of land (Wiggins and Proctor 2001). Land or countryside is considered a natural amenity. “For those already working and living in the cities, there may be advantages in quality of life (above all, from having more spacious housing and gardens, less noise and cleaner air) from moving out of the urban area into the surrounding countryside” (Wiggins and

Proctor 2001, 431). Richard Florida's *Competing In the Age of Talent: Quality of Place and the New Economy* supports the use of amenities in development strategies. In the study Florida interviewed "knowledge workers" who provided answers that suggest inexpensive measures can be used to boost the appeal of a place by marketing its existing amenities (Florida 2000). The interviews indicated that knowledge workers want more than the traditional amenities; they are attracted to areas offering additional amenities like water-based activities and outdoor festivals (Florida 2000). Natural amenities also add value. "Initiatives that increase outdoor recreational opportunities, which have traditionally been pursued to increase tourism, should increase the attractiveness of the local area to creative workers," (McGranahan and Wojan 2007, 213),

While rural areas can use natural amenities to encourage growth, some researchers believe that different amenities effect rural development in different ways.

Natural amenities support growth in tourism-based industries, industries serving retirees, and industries employing the creative class. This evidence suggests that rural areas could utilize natural amenities when forming an economic development strategy. Natural amenities, however, may not boost job rolls in all sectors of the rural economy. The impact of natural amenities on the manufacturing sector may be different than the impact on the retail and service sectors, because these industries have a different resource mix in their production functions. Determining the importance of natural amenities on employment growth in various rural sectors can help community leaders and policy makers use natural amenity in their rural development efforts. (Henderson and McDaniel 2005, 81)

There is some consensus on natural amenities being an asset in rural development, but planners need to carefully take into consideration how the amenities they have will

impact different sectors of employment. Planners must fully maximize the use of natural amenities to steer growth to sectors they wish to develop.

Another consideration in rural development is education. Planners and government officials know that education affects the ability to attract quality employers and a workforce with the skills to fill the high paying positions these companies may bring. Education is important to sustain and encourage rural economic growth, arguing that “An increase in the share of adults with some college was associated with more rapid employment and per capita income growth rates in metro and non-metro areas” (Barkley, et al. 2005,14). Non-metro areas must find ways to increase high school graduation better prepare students for college and increase college attendance if they want to increase their visibility in the national and global economy (Barkley, et al. 2005). A possible hindrance for non-metro/rural development is that while a highly educated workforce would benefit rural areas; the feeling may not be mutual, meaning that many rural citizens who do pursue higher education often relocate to more urban settings to pursue higher salaries. Stephan J. Goetz and Anil Rupasingha’s

... analysis suggests that rural areas have important disadvantages relative to urban areas in terms of offering workers competitive returns to education, or returns that are commensurate with the costs incurred by individuals as they pursue their education. Not only do rural areas fail to enjoy the kind of per capita income boost that is associated with interactions between certain variables and educational attainment in urban areas, but in some cases there are no interaction benefits in the first place” (2005, 9).

Much like the education scenario, rural areas often find themselves competing with neighboring urban areas for employers, skilled workers, and other development

incentives. Instead of trying to mirror urban areas, some rural communities have made a name for themselves by contrasting with non-attractive qualities of urban locations.

Forsyth County, Georgia took measures to set itself apart from urban Atlanta by lowering business tax rates and distancing itself from the main planning body of the Atlanta region, the Atlanta Regional Commission. Forsyth County also benefited from the out-migration of people from heavily populated urban areas in the city of Atlanta. Initially, the growth was great and exactly what the county wanted, however uneven development and infrastructure problems ultimately “left it resembling Atlanta itself and unable to avoid the kind of regional planning groupings that had hitherto raised suspicion” (Whitelegg 2005, 116).

Problems such as achieving a high education attainment and keeping a sustainable workforce may lead rural areas to fund education and enlist programs and policies that encourage students to graduate from high school and attain even higher levels of education. However, this investment can be risky because rural areas risk losing these potential skilled workers to urban areas that may provide a greater return on the individual’s education investment education. Some suburban areas like Forsyth County, Georgia may sell themselves to potential businesses and citizens by setting themselves apart from urban areas, but if they lack the tax base to fund infrastructure and other services a large influx of citizens require, then they may find themselves fighting the same problems their citizens ran to the rural area to escape. That being said, rural development is complex. Planners must find a way to build on the natural amenities they have and make a comprehensive plan they can use to retain educated citizens, attract new

businesses, while not growing so large that they are unable to reap the benefits of their investments, but also remain unique.

2.5 *Urban Development*

This thesis compares quality of life indicators in North Carolina's urban and rural counties. Often urban locations have a greater pool of resources for development than their rural counterparts. Developers are often faced with the challenge of deciding to pour resources into the smaller number of urban areas to help sustain growth or to pour more resources into rural areas to help them become more self-sustaining or competitive. Urban counties or urban areas are not self-sustaining, rural counties impact economies of urban counties and vice versa. In North Carolina a large portion of the population live in urban areas. These areas also have development issues to address. While urban development is important, this thesis and the literature review places more emphasis on the impact rural and urban relationships and regional development will have on quality of life and economic development, and so less focus is provided on urban development.

Central business districts (CBDs) must battle losing tax revenue as businesses and citizens migrate to suburban areas searching for lower taxes, less crime and incentives.

The Charlotte region is a great example of the strength of urban regions in the state of North Carolina. *The Charlotte Regional Indicator Project 2007* took an in-depth look at several economy and education indicators for the urban area. Among other findings the research showed: (1) "A steady increase in wages and per capita income; (2) A 1/3 increase in the workforce from 1990 to 2006; (3) A decrease in unemployment from 2003 to 2006; and (4) Mecklenburg County employers paid the highest average

annual wages in the region” (2007, 25). However, all too often despite the example of cities such as Charlotte,

While downtowns, edge cities and outer suburban areas are booming, inner-city neighborhoods and inner-ring suburbs are suffering from abandonment, continuing high unemployment, dismal education performance and increasingly high concentrations of poverty – in spite of an unprecedented period of economic growth” (Wiewel and Schaffer 2001, 594).

Another metro area that is often cited as for innovation and forward thinking is Phoenix, Arizona. But even with its creative planning, Phoenix has developing issues to deal with that impact quality of life. Subhrajit Guhathakurta and Robert Stimson found that

Population and urban growth are also major concerns for Greater Phoenix residents. Nearly three out of four citizens reported that the region’s population is growing “too-fast”, and only 5% think the region is doing a good job of preserving the desert. In a region-wide random sample survey 45% of citizens said they would move out of the Greater Phoenix region almost immediately if they could. The top three reasons cited: too many people, too hot and crime, (2007, 141).

Knowing that successful urban areas like Charlotte and Phoenix must deal with density issues and crime, and then we can expect other urban areas will have similar issues too. Urban areas often have more resources and funding to combat these issues than rural areas. As stated in the previous section, rural areas are losing skilled workers to urban areas. In turn, urban areas aim to attract these citizens to locate in the urban core versus the suburbs to reap the full benefits of investments on infrastructure and incentives given to businesses to locate in the CBD, this thesis hypothesizes that in North Carolina

quality of life in urban and rural counties would both benefit from regional collaboration, regional development could be utilized to address the issues both areas face.

2.6 Why Regional Development

Regional collaboration is important on every level of government. Rural and urban areas face challenges, and often both areas face budget shortfalls when trying to address development and planning problems. One way to tackle problems in rural and urban areas is through pooling resources and developing strategies to address problems on a regional level. Globalization requires collaboration across international boundaries, states can join together to bring issues to the forefront in Washington, D.C., counties can unite to bring state level change, cities and towns can work to increase economic activity in counties and communities can collaborate to improve the quality of life in their neighborhoods. One argument receiving a great deal of attention is Richard Florida's, advocating regional development catering to those who work in creative occupations because they are drawn to places that offer high quality of life, and when these people come to an area high quality jobs follow (2002). McGranahan and Wojan address what they consider to be limitations in Florida's creative class theory, including its applicability at the regional scale of development, Florida's measurement of the creative class, and the statistical analysis used (2007).

To create an efficient urban space, regional planners address several key issues ranging from achieving a job-housing balance to keeping transportation capacity investments low, creating clusters that help create a regional identity or brand. The economic development partnerships in North Carolina identify clusters that can help

brand their region, and each region enlists public and private partners to market the region in the identified targets, work with colleges within their regions to develop education curriculums to train workers, and actively recruit business in the identified target clusters. These partnerships are designed to promote regions, not individual counties. Regional planners aim to balance public interest with sound economic and urban efficiency policies. Ultimately, development projects on a large or small scale should improve the quality of life for those living in a given community. This thesis asks if regional development can positively affect quality of life in both rural and urban counties in North Carolina. A great deal of research illustrates the benefits of regional development, partnerships and collaboration in the economic development realm (Wiewal and Schaffer 2001, Whitelegg 2005, Reardon 2006, Landkamer 2006, Donegan et al 2008, Acs and Megyesi 2009).

Brett details how vital it is for New England states to unite to have a clear voice in Washington, DC and continue successful development in their region. “It’s more important than ever for the six states to work together to shore up their voice in Washington. Collaboration has been a hallmark of New England’s ability to grow its economic engine. Leveraging our shared geography, history and culture has served the region well” (Brett 2010, 15). A group of states working together proved to also spill over county and even state lines, building on common geography and culture to encourage economic growth and strengthen their political power in the nation’s capital.

Not only does collaboration have the ability to effect federal policy, regionalism can impact an areas ability to attract major corporations seeking to expand. Regions may

find themselves competing with other regions for a major corporation's next site selection. A successful example of a regional approach to win site selection for a major corporation is highlighted in a *Mississippi Business Journal* article, "Regional approach key factor in landing Toyota assembly plant" in which Karen Holliday discusses Toyota's decision to locate in North Mississippi. During a press conference announcing Toyota's decision Governor Haley Barbour credited local officials, leaders, several organizations and colleges for their ability to cooperate as a region in the effort to land the plant (2007).

As stated earlier, one of the major advantages of rural areas is natural amenities. Coupled with pleasant climate, the Southeast United States has natural amenities that can foster tourism and development. Rural and urban cooperation can build around natural amenities to draw attention to a region. "Fostering a broad amenity-based economic development strategy for Southeast region will require regional initiatives and partnerships. Regional partnerships can expand both the resource pool and the market's potential to support tourism-based activities," (Nzaku and Bukenya 2005, 101). Partnerships do not have to always be a typical coalition of city and county governments or state supported partnerships. Public institutions, such as universities can play a major role in fostering regionalism.

In 1985, the presidents of Brown, Georgetown, and Stanford universities came together to lend their support to the growing community service movement by forming the Campus Compact, a national organization of college and university presidents dedicated to advancing the civic purpose of higher education by: promoting community service initiatives that develop students' citizenship skills and values; encouraging partnerships between campuses and communities; and assisting faculty who seek to integrate public and community engagement into their teaching and research (Reardon 2006, 96).

The ability to nurture relationships between citizens, public institutions, businesses, and governing officials will help planning to be comprehensive.

In local development it seems citizens may be leery of the motives of developers and distrustful of politicians, so it can be beneficial to hold off on creating an agenda. Instead, form a basic consensus that cooperation is the best route to improve an area. A case study on Defiance County, Ohio used interviews with key economic decision makers in the county who felt that state support for development was lacking (Webb and Zeller 2007). It found that innovation in the way regionalism efforts are constructed may prove to be more beneficial than the traditional method of constructing an agenda and soliciting support from those who share your views. It may be more productive to simply find those who agree that regionalism is vital and then begin forming an agenda.

Envision Utah began with an ironclad rule: it had no agenda. Instead, it involved as many people as possible – including, most importantly, powerful decision makers – in defining what the region’s agenda should be. Remarkably, when asked to think about the good of the region and when educated about the consequences of choices, the people of the Wasatch Region made decisions that fit closely the agenda’s of other anti-sprawl coalitions. Because a broad base of stakeholders, rather than a coalition built around a specific agenda, chose Envision Utah’s vision for the region’s future, implementation has met less resistance than have the efforts of coalitions, (Harvard Law Review 2005, 2293).

The structure of local government encourages competition between localities. As local funds are used to fund local projects many areas take a ‘winner take all’ attitude when they see opportunities for economic gain. Often neighbors will offer separate incentive packages in an effort to have a major employer locate within its limits. A prime example of this was when three counties in the Piedmont Triad Region of North Carolina failed to

embrace regionalism and submitted competing bids to become the site location for a Dell plant. It is likely that presenting a united front and a single bid could have saved money and opened the door to partnerships to attract other company headquarters in the region. Dell subsequently left for a facility in Mexico.

Cookie cutter planning may harvest resentment and distrust if citizens believe those planning have self-serving motives and exhibit little concern about what it is the citizens wish for their community to become. Cities, counties, communities suffer when business continues as usual. “The time for inaction has passed. It is no longer feasible to maintain the status quo and do business in ways that worked in the past. Without proactive changes we will not resolve the problems that we now face – and will only exacerbate them” (Roosa 2010, 437). It is highly unlikely that a large number of local governments will willingly hand over land use control and budgets, so regionalism may require those outside of city hall to form relationships and develop a cohesive agenda. Potential players include developers, nonprofit organizations, local colleges, churches, concerned citizens and more.

2.6.1 Regional Development Funding

Governing bodies invest time and money into programs they feel best serve the public, and regional development has proven to be an area the federal government warrants to be in the best interest of the people. Federal and state level government are often faulted for being out of tune with what it is local governments need and what regionalism should look like on the local level. The federal and many state level governments find merit in regional development and provide funding opportunities and

incentives to encourage regional partnerships. Even on a federal level major funding incentives are provided through the Economic Development Administration (EDA). Their stated mission is: “To lead the federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy” (Economic Development Administration 2010). EDA’s webpage lists the following priorities: (1) Collaborative Regional Innovation; (2) Public/Private Partnerships; (3) National Strategic Priorities; (4) Global Competitiveness; (5) Environmentally-Sustainable Development; and (6) Economically Distressed and Underserved Communities (2010). EDA believes regionalism is vital to economic recovery, and the department also feels those regions that “work together to leverage resources and use strengths to overcome weaknesses will fare better than those that do not” (2010). EDA invests in regionalism. The following table describes different areas of EDA Investment Programs.

Table 4 – EDA Investment Programs	
Public Works	Empowers distressed communities to revitalize, expand and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies, and generate or retain long-term, private sector jobs and investments.
Economic Adjustment	Assists state and local interests in designing and implementing strategies to adjust or bring about change to an economy. The program focuses on areas that have experienced or are under threat of serious structural damage to the underlying economic base.

Table 4 – EDA Investment Programs	
Community Trade Adjustment Assistance	Provides project grants to communities that have experienced, or are threatened by job loss resulting from international trade impacts.
Partnership Planning	Supports local organizations (Economic Development Districts, Indian Tribes, and other eligible areas) with long-term planning efforts.
Trade Adjustment Assistance for Firms	A national network of eleven Trade Adjustment Assistance Centers to help strengthen the competitiveness of American companies that have lost domestic sales and employment because of increased imports of similar goods and services.
Global Climate Change Mitigation Incentive Fund	Finances projects that foster economic development by advancing the green economy in distressed communities.
University Centers	A partnership of the federal government and academia that makes the varied and vast resources of universities available to the economic development community.
Research and National Technical Assistance	Supports research of leading edge, world class economic development practices and information dissemination efforts.
Local Technical Assistance	Helps fill the knowledge and information gaps that may prevent leaders in the public and nonprofit sectors in distressed areas from making optimal decisions on local economic development issues.

Source: Economic Development Administration Website 2010

The funding set aside by EDA to support and encourage regional development provides support in quality of life areas. The EDA Fiscal Year 2009 Annual report states that “during FY 2009, EDA obligated \$147 million in ARRA funding to 68 projects in 37 states, a full year ahead of schedule. EDA invested \$50 million to promote the development of regional innovation clusters, \$37 million to promote business incubation,

\$27 million to promote green jobs, \$11 million to promote trade, and \$25 million for a variety of other development projects” (US EDA 2010).

Factors that make a project eligible for funding under some of the EDA priority areas include, but are not limited to factory closings and layoffs, underemployment and/or high unemployment, low per capita income and even outmigration. All of these are problem areas that many rural and some urban regions are facing in our current economy. Local leaders and citizens may not be satisfied with the way that funds are prescribed or even the amount of funding, but it is important to be good stewards of the funds and assistance offered. James Babcock and Ray Taylor discuss the federal government’s movement away from providing funds for a single project and towards funding projects that will ensure a greater impact.

The bar steadily rises as requirements move beyond the need for metropolitan planning and metropolitan allocation of funds to requiring the formation of regional organizations, assurances of conformity with related environment, land-use or other projects, greater citizen involvement, and social impact statements, (Babcock and Taylor 2005, 4).

EDA funding is just an example of funding available to promote development. Larger contributions that have a significant impact on promoting development on a regional basis have been created on the federal level with legislation like Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and subsequent legislation, which changed transportation planning in the United States and gave a major power boost to metropolitan planning organizations, even provided funding for community trails that add to quality of life in areas across the country. The overall point here is that federal

funds, state funds, and even private funds are being allocated to promote regional development; all levels of government are beginning to see value in this approach to development.

Funding to encourage and support regionalism is also available on a state level. The North Carolina Department of Commerce provides funds to assist with community development. One avenue of funding is the Appalachian Regional Commission (ARC), which provides support for a thirteen-state region. North Carolina counties served by ARC include: Alexander, Alleghany, Ashe, Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Davie, Forsyth, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Stokes, Surry, Swain, Transylvania, Watauga, Wilkes, Yadkin, and Yancey (NC Dept of Commerce, Appalachian Region Commission, 2010). ARC is a federal-state partnership that has support from various entities ranging from state and federal agencies, nonprofit organizations, to public universities. In September 2010, the ARC along with other supporters provided \$6 million to help fund a rural initiative to improve healthcare and provide jobs. This money went to fund “37 projects across the state, resulting in 525 new jobs and leveraging \$107 million in other private and public funds” (NC Dept of Commerce, Appalachian Region Commission, 2010).

Regional efforts supported by ARC and federal sources can create a domino effect. As nonprofit organizations, universities, business leaders and others see successful projects, they may be willing to invest in new projects or join forces with

others to continue creating jobs, improving housing, reducing crime, and improving the overall quality of life of the communities, regions, states they call home.

Rural and urban development poses issues that many municipalities, cities and regions must address. A substantial amount of literature and debate question what strategies work best, what causes the problems being faced, and offer input on what will work where. Regionalism is one solution offered with support from federal and state funding. Regionalism is deliberate. Local officials may not feel that they have the amount or type of support they prefer. However, they must find a way to utilize these funds to shape their regions in a manner that resembles as closely as possible comprehensive plans they have developed while consulted with the people they serve. Challenges are sure to arise, differences will surface, and some efforts may fail but as people and places change, planners must learn to adapt development plans to meet the needs of the citizens they serve. This research provides a detailed examination of the quality of life in North Carolina counties to see what strategies worked where, and assess their transferability.

CHAPTER III

RESEARCH DESIGN

This research compares quality of life in North Carolina's urban and rural counties individually, and goes a step further by analyzing how regional development impacts quality of life in both urban and rural counties. I hypothesize that North Carolina's urban counties have higher quality of life indicators than the state's rural counties and that regional development will be beneficial to both urban and rural counties. Economic development on any level and quality of life go hand in hand, and the quality of life of citizens in different areas can be improved or become worse based on what is happening in the next city, county, and state. As such, regional development or collaboration between urban and rural counties in North Carolina may improve quality of life in both settings. Current economic conditions on the global, national and state levels have the public and private sector analyzing how the recession is impacting the daily life of citizens.

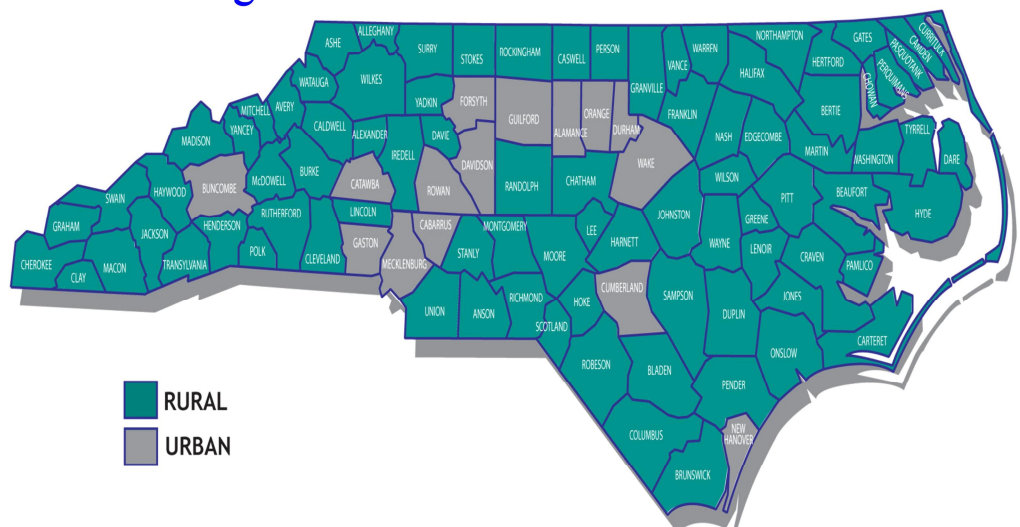
A downturn in the economy can lead to lower incomes, a decline in health, more homelessness and deterioration of social well-being, such as more crime and public safety problems. A poor economy means less money being spent, less money available for taxes (government) and thus less money for government services such as roads and improvements (transportation)" (UNC Charlotte Urban Institute 2007, 24).

3.1 Study Area

In the United States most planning and development issues are the legal responsibility of state level governments. In most states planning and development issues which directly impact citizens are handled by local governments, whether counties, cities, or a joint county/city effort.

The county structure was adopted by colonists in North America. Our counties were created as administrative districts of the state to make sure that services are efficiently delivered locally. As a level of government close to the average citizen, county officials provide a measure of local control over important matters that affect our families and the communities in which we live (<http://www.naco.org/Counties/Pages/LearnAboutCounties.aspx> (last accessed 9 February 2011))

Figure 1: NC Rural & Urban Counties



Source: NC Rural Economic Development Center

Due to the county's proximity to the citizen, the role it can play in altering quality of life, combined with the number of counties in North Carolina, I decided to conduct research at the county level. Out of the thousands of counties in the United States, North Carolina has 100 counties. The majority of North Carolina's counties are considered rural counties, with only 15 classified by the NCREDC as predominantly urban. Most of the state's urban counties are clustered in the center of the state along the Interstate I85 and I40 corridor; many of the state's larger universities are also located in this area. Rural counties in this research are counties that "had a population density of no more than 250 people per square mile at the time of the 2000 U.S. Census. This definition of rural has been incorporated in legislation adopted by the N.C. General Assembly," <http://www.ncruralcenter.org/rural-county-ma.html> (last accessed 4 February 2011). The map in Figure 1 is the North Carolina Rural Economic Development Center's map of North Carolina's 100 counties based on the above definitions. Urban counties are denoted in grey and rural counties are marked in green. Table 5 list North Carolina's urban counties.

Table 5 – NC Urban Counties	
Alamance County	Gaston County
Buncombe County	Guilford County
Cabarrus County	Mecklenburg County
Caswell County	New Hanover County
Catawba	Orange County
Cumberland County	Rowan County

Table 5 – NC Urban Counties	
Durham County	Wake County
Forsyth County	

Source: N.C. Rural Economic Development Center, Inc., 2010

3.2 *Definitions*

Many of the quality of life indicators chosen for this research were chosen because they are traditional indicators that have been used in quality of life studies on international, national, state and local levels. Several of the articles discussed in the *Chapter 2: Literature Review* used the same or similar indicators. In addition to the articles previously reviewed, similar indicators have been used recently in assessments on areas in North Carolina. To address the current recession the North Carolina Department of Commerce created an economic development guide for the state (2009). The guide provides six broad economic categories containing sixteen economic indicators. All the categories included in this study are analyzed, to some degree, in the North Carolina Department of Commerce's study. The United State Census also provides statistics for many of the indicators. The variables selected in this study seem to be less controversial as they were common throughout the literature reviewed for this research. The North Carolina Department of Commerce holds these indicators as relevant in planning and development. Definitions and sources used for this research are as follows:

3.2.1 Labor and Employment

The labor and employment figures in this study were established by the North Carolina Employment Security Commission and the United States Census Bureau. “The data collecting methods used by the North Carolina Employment Security Commission are approved by the U.S. Department of Labor, Bureau of Labor Statistics. The same method is used throughout the United States, so that data are comparable nationwide,” <http://eslmi23.esc.state.nc.us/ncp/info/methodology.aspx> (last accessed 4 February 2011). The first variable considered in terms of labor and employment is the unemployment rate at the county level. The unemployment rate figures are the percentages the fourth quarter of 2010. The definition of unemployment adopted by this study is the definition used by the North Carolina Employment Security’s Local Area Unemployment Statistic’s Program:

Estimates of unemployment include all individuals who are unemployed in an area without regard to whether they filed claims for unemployment benefits. Key elements in estimating total unemployment include counts of those individuals receiving unemployment insurance benefits, those who have exhausted their benefits, those unemployed but not filing for benefits and those entering the labor market for the first time or reentering after absence, <http://eslmi23.esc.state.nc.us/ncp/info/methodology.aspx> (last accessed (last accessed 4 February 2011)).

The second variable used to analyze quality of life in terms of labor and employment in this analysis is the percentage of professional workers in North Carolina counties. This data was obtained from the 2009 American Community Survey since “The American Community Survey is vital to economic development and for wise government and business decision-making. The American Community Survey is an

improvement over the census long form because it provides small-area information annually instead of once a decade”

http://www.census.gov/acs/www/about_the_survey/american_community_survey/ (last accessed (last accessed 6 February 2011). The survey is ongoing and provides much of the data the Census collected every decade on an annual basis.

The North American Industry Classification System (NAICS) codes for 2007 were used to classify the occupation group selected for this study. This study’s “percent professional and related” category will be the figures used in the American Community Survey’s category “Management, professional, and related occupation” which is based on the NAICS 2007 Sector 54: Professional, Scientific, and Technical Services. This sector was chosen because its focus is knowledge-based careers. NAICS’s definition reads:

The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. The establishments in this sector specialize according to expertise and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services, (2007 NAIC Definitions, 2007).

The labor and employment variables in this research come from state and federal level sources that are reliable and regulated, and both can be compared to data collected for different years and across state lines.

3.2.2 Educational Attainment

The two variables chosen to analyze education were the percent of citizens eighteen and older with a high school diploma and the percent of citizens eighteen and older with a bachelor's degree or more. Both variables were obtained from the 2009 American Community Survey conducted by the United States Census Bureau. The American Community Survey for 2009 states, "Educational attainment data are tabulated for people 18 years old and over. Respondents are classified according to the highest degree or the highest level of school completed. The question included instructions for persons currently enrolled in school to report the level of the previous grade attended or the highest degree received" (2009). The data is comparable to surveys conducted in other years and to historical census data. This data is considered reliable as the United States Census research is federally regulated and frequently used by researchers.

3.2.3 Health and Wellness

This research employs two variables to gauge quality of life indicators in the health and wellness category. The percent uninsured data is the percent of each counties population over the age of eighteen without health insurance. This data was compiled by the United States Census Bureau as a part of the American Community Survey; data is from 2009.

Health insurance coverage in the ACS and other Census Bureau surveys define coverage to include plans and programs that provide comprehensive health coverage. Plans that provide insurance for specific conditions or situations such as cancer and long-term care policies are not considered coverage. Likewise, other types of insurance like dental, vision, life, and disability insurance are not considered health insurance coverage (The American Community Survey, 2009).

This information will be helpful to state and local policymakers, health care professionals, insurers, and community groups and others interested in the provision of health care at the local level.

The second health and wellness variable is the teen pregnancy rate. In this analysis the figures from the North Carolina Department of Health and Human Services are used, and by definition the data represent the number of babies born to teenage females ages fifteen through nineteen per 1,000. To account for yearly fluctuations this variable is an average for the years 2003 through 2007, which may be perceived as a limitation in that other variables are based on yearly data.

3.2.4 Population and Demographics

To get a sense of the working class population this research used the variable “percent age eighteen to forty-four”. This data was also collected from The American Community Survey conducted by the United States Census Bureau. The data set used for this variable is the “2007-2009 American Community Survey 3-Year Estimates”, which provides an average over the three year period represented; yearly data was not available for all counties so the 2007-2009 estimates were used.

The second variable included is median household income, which provides some indication of the spread of income. Median household income in this study will mean half of the households earn more and less than the figure shown. Income is reported is from the American Community Survey 2009 conducted by the United States Census Bureau. “For households and families, the median income is based on the distribution of the total number of households and families including those with no income Median

earnings is restricted to individuals 16 years old and over with earnings and is computed on the basis of a standard distribution (The American Community Survey 2009).”

3.3 *Methodology*

The variables selected in this research are those I feel are uncontroversial in their relevance and variables that have been used by various government agencies and other reliable organizations entrusted with analyzing the economic development conditions in the state of North Carolina. This study first marked all 100 counties as urban or rural based on the definitions listed in Section 3.1. Figures were then gathered from the various sources for the following quality of life indicators in the following categories:

(1) **Labor & Employment:** Unemployment Rate and Percent Professional (NC Employment Security Commission and US Census Bureau American Community Survey)

(2) **Educational Attainment:** Percent High School Diploma or Higher and Percent Bachelor’s Degree or Higher (Source: US Census American Community Survey)

(3) **Health & Wellness:** Percent Uninsured and Teen Pregnancy Rate (US Census American Community Survey and NC Department of Health and Human Services)

(4) **Population & Demographics:** Percent age eighteen to forty-four and median household income (US Census Bureau American Community Survey).

Once all data was compiled, the overall state means, urban means, rural means, and difference in means between urban and rural counties were compiled (see Table 7). The percentage for each county is provided for every variable in Appendix C. Maps are also provided showing the top twenty counties for each variable to provide an illustration of where the counties in the top fifth percentile for each variable are located in North Carolina.

The second part of the research explores the impact regional development may have on quality of life in both rural and urban counties. The questions listed in Table 6 are used as a basis of discussion with county managers and other officials based on the suggestions from county managers. The questionnaires/interviews were used to gain insight from county professionals on their knowledge on how the quality of life indicators used for this research are addressed in their counties, and how they feel regional development can impact quality of life and economic development. County managers were asked to answer the questions and provide additional feedback on how they feel the county they work for compares to the urban or rural counties close to them, what quality of life issues seem to be the biggest concern for their county, and they were also asked for feedback on what they feel hinders regional development. A summary of the responses are provided in Appendix A. Additional information from publications including annual reports, websites and other marketing material, developed by the seven state-designated economic development regional partnerships were utilized to supplement the questionnaire responses and examples of regional collaboration and the benefits were also addressed.

Table 6 – Questionnaire	
1	Rank the following as obstacles to development in your county: <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Labor/Employment <input type="checkbox"/> Health & Wellness </div> <div> <input type="checkbox"/> Education <input type="checkbox"/> Population/Demographic issues </div> </div>
2	Give an example of the top issue.
3	How is your county planning to address that issue?
4	What quality of life indicators are the most important to the citizens in your county? <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Labor/Employment <input type="checkbox"/> Health & Wellness </div> <div> <input type="checkbox"/> Education <input type="checkbox"/> Population/Demographic issues </div> </div>
5	What are some indications of importance? Rank your county's performance compared to surrounding counties in the categories listed above <input type="checkbox"/> Better than surrounding counties, <input type="checkbox"/> Could learn from surrounding counties, <input type="checkbox"/> About the same as surrounding counties?
6	Describe any development projects that your county has worked on with neighboring counties to improve quality of life in terms of: <input type="checkbox"/> your labor pool <input type="checkbox"/> improving education <input type="checkbox"/> improving the health of citizens?
7	What are the biggest obstacles to planning and development on a regional basis in NC? <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Labor/Employment <input type="checkbox"/> Health & Wellness </div> <div> <input type="checkbox"/> Education <input type="checkbox"/> Population/Demographic issues </div> </div>
8	Your county is considered <input type="checkbox"/> Mixed <input type="checkbox"/> Urban <input type="checkbox"/> Rural What characteristic of the opposite category listed in Question 8 do you think would be beneficial to your county?
9	What if any planning and/or development relationship do you have with a near by county that is in the opposite category?
10	How do you think a stronger relationship would impact quality of life in your county?
11	How do you think a stronger relationship would impact their quality of life?

CHAPTER IV

FINDINGS

This section is a detailed discussion of the findings for this thesis. Two hypotheses were considered for this thesis. First, *urban counties in North Carolina have higher measurable quality of life indicators than do the state's rural counties*, and second *embracing regional development would benefit both urban and rural counties*. A general overview of descriptive statistics and complete rankings for all 100 counties are discussed followed by an in-depth discussion of the major findings:

- (1) North Carolina urban counties rank higher than rural counties in quality of life indicators.
- (2) Regionalism has been beneficial in both urban and rural counties in North Carolina.

4.1 Descriptive Statistics

A person's decision to locate in a rural or urban setting may be decided by a number of different variables, and living in a rural or urban county can have an impact on quality of life. To test the hypothesis that North Carolina urban counties perform higher in several quality of life indicators than the state's rural counties, I collected data on all 100 counties. For each of the 100 counties I calculated the overall state, urban and rural means for each variable, and the difference in means for urban and rural counties. Table 7

lists the means for each of the variables used in this research. The variables are ordered based on the largest difference in urban and rural county means. Appendix C contains tables (C-1 –C-8) with rankings for all 100 counties for each variable listed in the Variable Means Table; urban counties are marked with a “U”.

Table 7: Variable Means				
Variable	State Means	Urban Counties Means	Rural Counties Means	Difference in Means (Urban vs. Rural)
Median Household Income	\$40,159.45	\$47,503.33	\$38,863.47	+\$8,639.86
Percent College Degree Holders	18.48	29.60	16.52	+13.08
Percent Professional	28.58	36.46	27.28	+9.18
Percent High School Diploma	79.52	84.60	78.62	+5.98
Teen Pregnancy Rate	33.57	29.09	34.36	-5.27
Percent Age 18 - 44	34.90	39.00	34.00	+5.00
Percent Uninsured	20.24	19.47	20.38	-0.91
Percent Unemployment	9.85	9.34	10.2	-0.86

Median household income means have the largest difference when comparing urban and rural counties. The median household income for urban counties is \$8,639.86 higher than the median household income for rural counties. Gebremariam, Gebremariam and Schaeffer (2009, 18) conducted a study of 417 Appalachian counties

from 1990 to 2000 and found that “(1) employment growth and median household income growth are interdependent and jointly determined by regional variables; (2) employment and median household income growth in a county are conditional upon initial conditions of the county; and (3) employment and median household income growth in a county are conditional upon employment and median household income growth in neighboring counties.” These findings apply to the state of North Carolina as well. Median household income is one the variables identified in the Population and Demographics category for this study. In the questionnaire responses (Appendix A) provided several rural counties listed population and demographic issues as major obstacles to county level development and regional development (Madison County, Mitchell County, Transylvania County and Robeson County, Halifax County and Wilson County). Labor and employment is listed as a major citizen concern by every respondent, and this category is linked to income. The ability of counties to work together to add income to households can impact quality of life statewide as suggested by Gebremariam et al.

Urban counties have higher mean percentages of high school diploma holders, college degree holders and the percentage of professional workers. It is likely that many of the differences in means for the different variables are related; it is likely that the education variables and the percentage of professional workers are likely linked. The mean college degree holders in urban counties are about 13% higher than the mean college degree holders in rural counties and the high school diploma mean percentage difference of 5.98%, and rural counties in North Carolina view workforce development as

an obstacle to economic development. For example, Ashe County and Alamance County questionnaires used for this study list workforce development as obstacles to economic development; the questionnaires will be discussed in detail later in this chapter. While Alamance County is an urban county the concern listed was the ability to move away from an industrial/textile based economy, which is frequently the economic base in rural counties. Education can impact the quality of the workforce. Large prestigious universities in North Carolina are mainly in urban counties; these counties also provide job opportunities, entertainment, recreation, which may lead to urban counties' ability to retain young professionals. The percentage of professional workers, as stated earlier, captures workers who are involved in professional, scientific and technical careers like architects, engineers, legal careers among others. A region like the Research Triangle is home to major universities like the North Carolina State University, the University of North Carolina at Chapel Hill, Duke University, North Carolina Central University and others that attract intelligent students from all over the world. This region is also home to major medical centers, research and technology firms which located within the region in part because of the availability of a highly specialized workforce to fill positions. This is just one example of how urban counties are able to provide high quality of life indicators in several categories by fostering an environment that provides access to education which can lead to not just employment, but employment in fields that yield higher salaries. College and universities that can establish a national or even international presence can be instrumental in bolstering economies and help attract high paying firms that employ

their graduates, helping to one improve quality of life for their home county, but also the region and ultimately the state.

The percentage difference of those ages 18 to 44 is 5%, which also may speak to the availability of jobs in urban counties. The difference in the means may be less significant than others because rural counties may lag urban counties in job availability, but many of those in the workforce can commute or out migrate to urban counties for work. Wilson and Robeson County both list efforts to improve the labor pool, which could mean helping citizens in the labor pool, who could be largely represented by this variable. Rural counties who have lost part of their economic base as manufacturing companies leave may be faced with retraining those who have lost their jobs, and the questionnaires and annual reports reveal work with high school curriculums and community colleges are measures used to improve the workforce.

Three variables have a mean difference ranking rural counties above urban counties, but they are all variables that negatively impact quality of life, and could also negatively impact economic development. Those variables include teen pregnancy (-5.27), percent uninsured (-0.91) and percent unemployed (-0.86). The largest of three is the teen pregnancy rate having a little over 5% larger mean in rural counties. The North Carolina Institute of Minority Economic Development's President, Andrea Harris, says,

If the economic erosion of many rural and inner city urban communities continues unchecked, then increased crime, teenage pregnancy, substance abuse, unemployment and dependency will heighten. We must build businesses to create and retain jobs, and increase net worth in order to stop this erosion and create an environment of self-determination and independence,

http://www.ncimed.com/index.php?option=com_content&view=article&id=38&Itemid=68 (last accessed 6 July 2011).

These mean differences are not as high as I expected, which could mean that they are issues both types of counties should address, preferably together. Uninsured and unemployment go hand in hand, and the impact of job loss and loss of benefits are felt statewide. Similarly teen pregnancy has a slightly larger mean in rural counties, but again is an issue that should be addressed in all areas as it can impact all as teen mothers may lack the financial ability to support children, taxpayers ultimately provide the funding for programs to supplement these homes.

Reviewing the means for urban and rural counties and their differences demonstrates that urban counties perform better in the positive quality of life indicators, and rural counties have higher means in those quality of life indicators that could have a negative impact on economic development. The questionnaires reveal that many of the counties are on the right path in efforts to address the areas the rural areas rank lower in, and all counties are committed to improving variables that lend to job availability, income and education.

4.2 Urban Counties versus Rural Counties

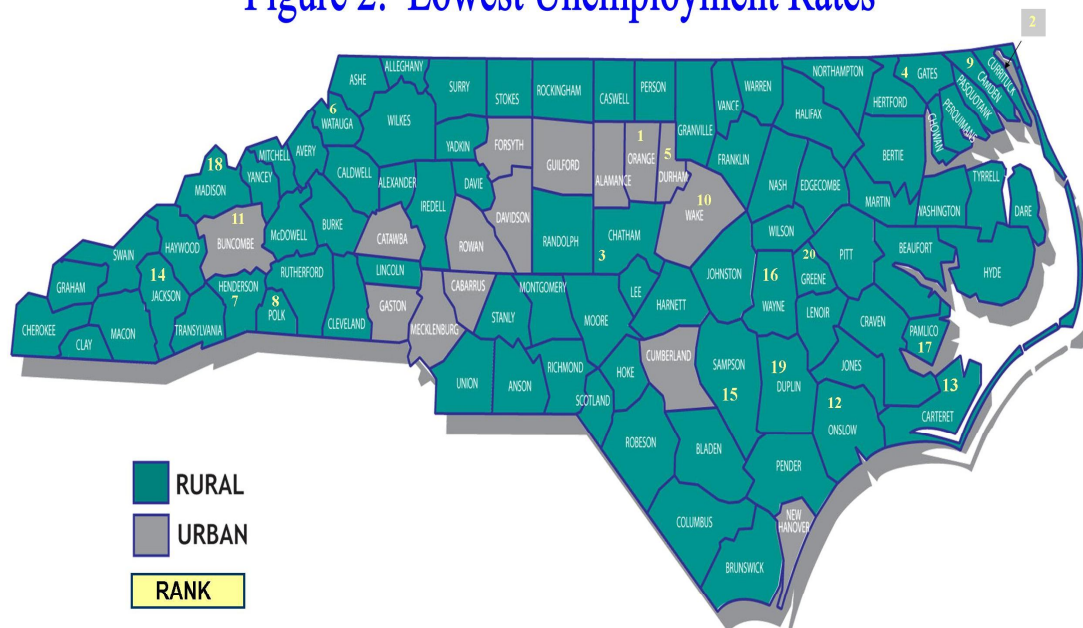
The first major finding was that North Carolina urban counties rank higher than rural counties in all the indicators here minus those with a negative connotation, which were those with high uninsured and high teen pregnancy rates. This finding is especially prevalent when mapping the top fifth percentile in for each variable. Mapping the top fifth percentile also revealed that clusters of high quality of life indicator scores appear

around counties with a military presence in the South and the East; and in the northeast corner of the state counties are likely have higher quality of life indicators due to their proximity to the Hampton Roads area of Virginia; this subsection outlines these findings.

4.2.1 Labor and Employment

Figure 2, “Lowest Unemployment Rates”, maps the twenty counties with the lowest unemployment rates for the state

Figure 2: Lowest Unemployment Rates



Base Map: NC Rural Economic Development Center
Ranks added by: Sakika James
May 2011

Urban counties account for 26.6% of the top twenty counties with the lowest unemployment rates, and rural counties account for 18.8% of the top twenty. An even larger disparity appears in the top ten counties – urban counties 20% and rural counties 8.2%. Orange County (urban) has the lowest unemployment rate, at 5.8%. Urban counties also have the highest percent professional employees with six of the top ten positions designated as urban counties. Orange County ranked highest with 51%. The highest ranked rural county, Chatham County, was the fifth highest with 39%. Chatham County is located in close proximity to a large cluster of urban counties in the middle of the state; it is bordered in the north and east by four urban counties: Alamance, Orange, Durham and Wake County. At first glance it may appear that the top twenty is equal, but a closer analysis reveals nearly 67% of the urban counties are in top twenty counties in this category while only about 12% of the rural counties are represented. Reviewing the top ten counties, we find 70% of the top ten counties are urban.

Figure 2 shows a cluster of counties with low unemployment rates grouped around Buncombe County, one of the state's fifteen urban county. A similar case can be made for counties in the middle of the state with Chatham County (3) likely taking advantage of its location – bordering Orange, Durham and Wake Counties. Sampson County is also next to Cumberland County, which is urban. There are several counties in the eastern part of the state and the northeast that are not directly adjacent to urban counties, but they are next to the coast, and close to military bases which are positioned in Wayne County, Onslow County, Pamlico County, and Carteret County. The counties in the northeast corner of the state also have lower unemployment rates; this may be due

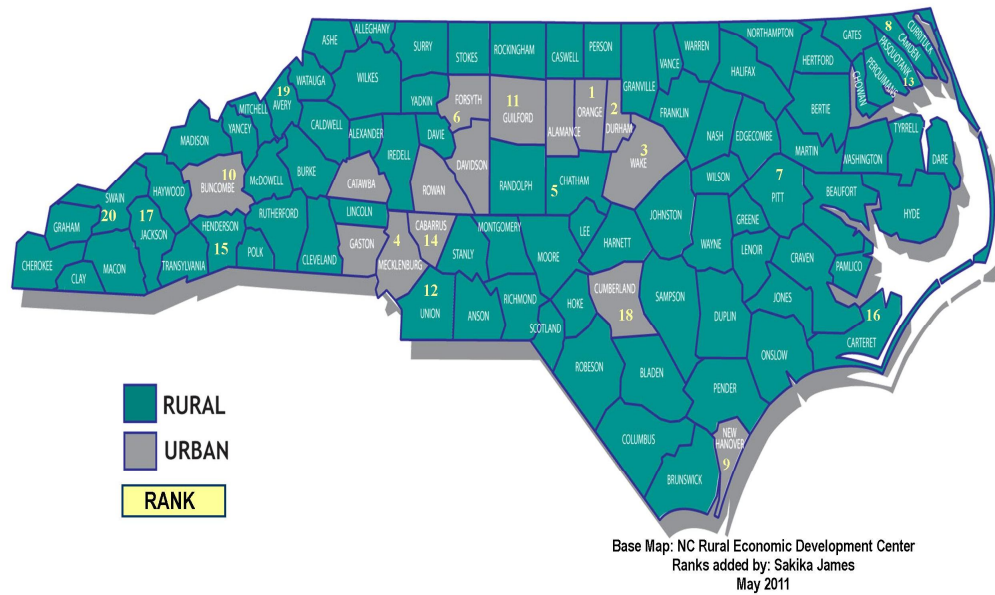
in part to a large number of workers crossing state lines to find work in neighboring state Virginia. For example, in Camden County, “over 85% of the local labor force commutes to Virginia for employment,”

http://www.ncnortheast.info/Regional_Overview/County_Profiles/Camden.htm (last accessed (last accessed 25 May 2011). A similar scenario is likely present in Currituck and Gates County. Currituck County is federally recognized as a part of the Hampton Roads, Virginia MSA.

Figure 3 on the next page maps the twenty counties with the largest percents of professional workers. It shows a majority of the counties with larger professional workers are in fact urban counties and many of the rural counties are in close proximity to urban counties. Swain, Jackson, and Henderson Counties are close to Buncombe County, which is urban. Union County is close to two urban counties, Mecklenburg and Cabarrus. Similar to Figure 2, clusters form around urban counties, military bases, and in the northeast near the Virginia border close to the Hampton Roads area.

The variables, unemployment rate and percentage of professional workers, were chosen to analyze quality of life for labor and employment for this thesis, and they show urban counties outranking rural counties. In addition to supporting the hypothesis that, urban counties score higher on quality of life indicators than rural counties in North Carolina these variables also show clusters of counties ranking in the top twenty, these clusters present some support for planning on a regional scale as these counties can feed off of each other's strengths.

Figure 3: Highest Percent Professional



4.2.2 Educational Attainment

Educational attainment variables paint a similar picture to labor and employment. The two variables chosen to portray educational attainment were the percent of the population with a high school diploma or higher and the percent with a bachelor's degree or higher. Detailed descriptions/definitions for these variables and all other variables can be found in Chapter 3: Research Design. Figure 4, "High School Diploma Holders" shows the twenty counties with the state's highest percentage of those age 25 and older with a high school diploma. While rural Dare County has the highest percentage of the population age twenty-five or older with a high school diploma (92%), the next five positions are held by urban counties; nearly 70% of the state's urban counties are represented in the top twentieth percentile for this variable, but only about 12% of the

state's rural counties fall in the top twenty. The top tenth percentile has about a third of the urban counties and less the 4% of the rural counties.

Figure 4: High School Diploma Holders

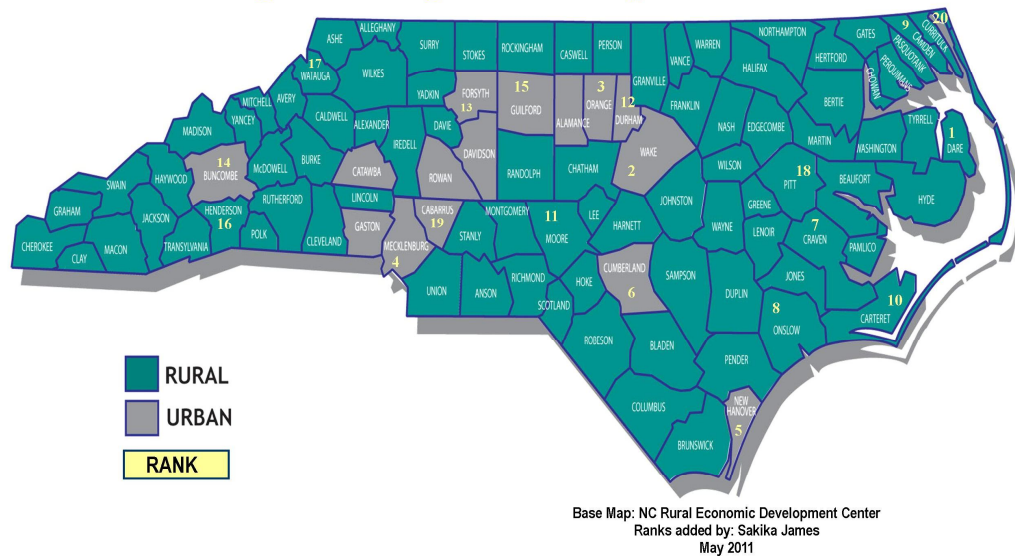
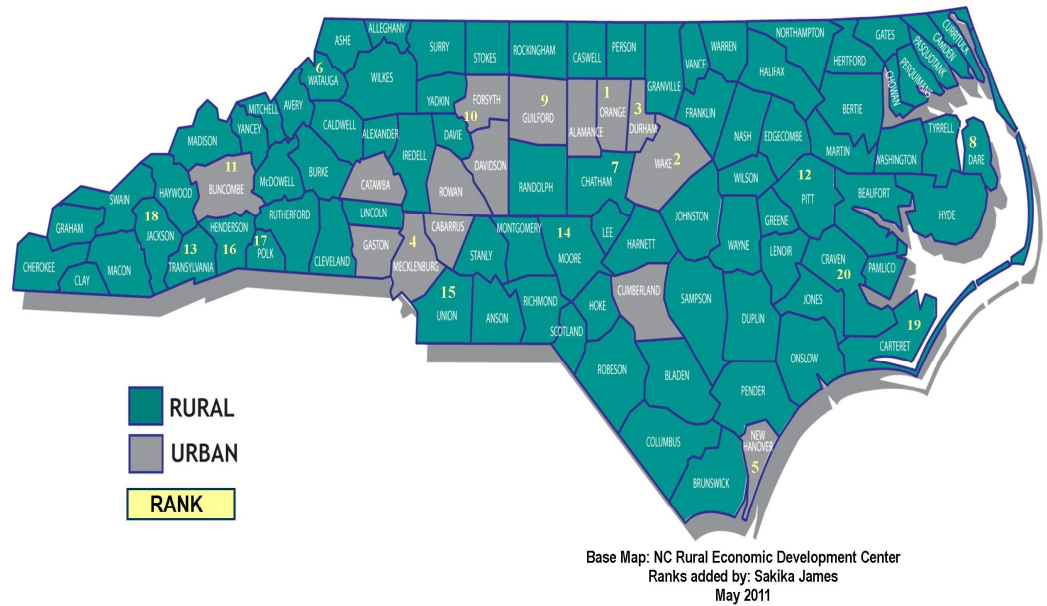


Figure 5, “College Degree Holders” shows the state’s twenty counties with the highest percentage of those age 25 and older holding a bachelor’s degree or higher. Percent age twenty-five and over with a college degree, urban counties account for seven of the top ten, with Orange County ranking first with 54%. Fourteen percent of the rural counties are in the top twenty, and 53% of the urban counties are in the top twenty. The top 5th percentile is completely urban, and nearly all of the rural counties within the top twenty are only one to two counties away from an urban county. Figure 4 reveals similar clusters as in previous maps – urban centered, military driven, and Hampton Roads influence are the areas with higher diploma recipients. Figure 5 displays similar clusters.

Figure 5: College Degree Holders



4.2.3 Health and Wellness

The twenty counties with the highest percentages on uninsured citizens between the ages of eighteen and twenty-five are displayed in Figure 6 and Figure 7, “Highest Teen Pregnancy Rate”, shows the twenty counties with the highest percentage of teen pregnancy.

Figure 6: Highest Uninsured

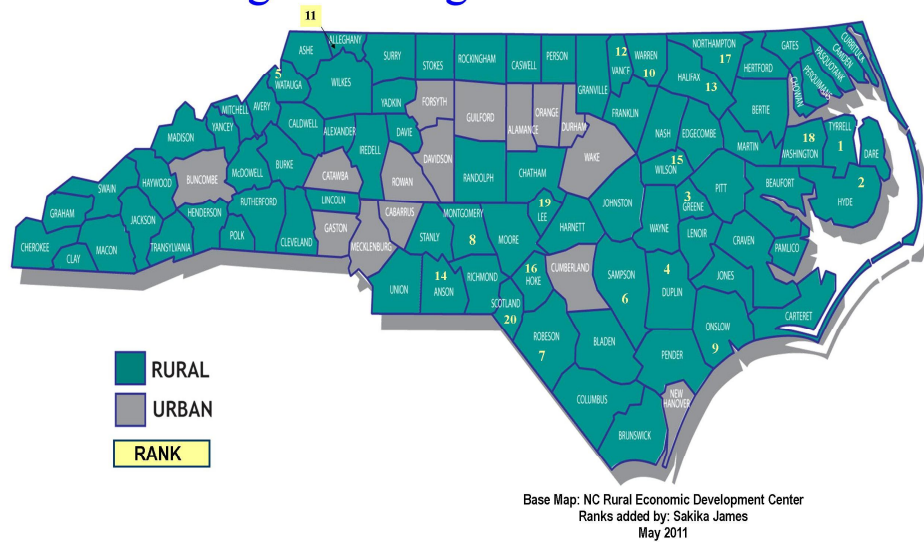
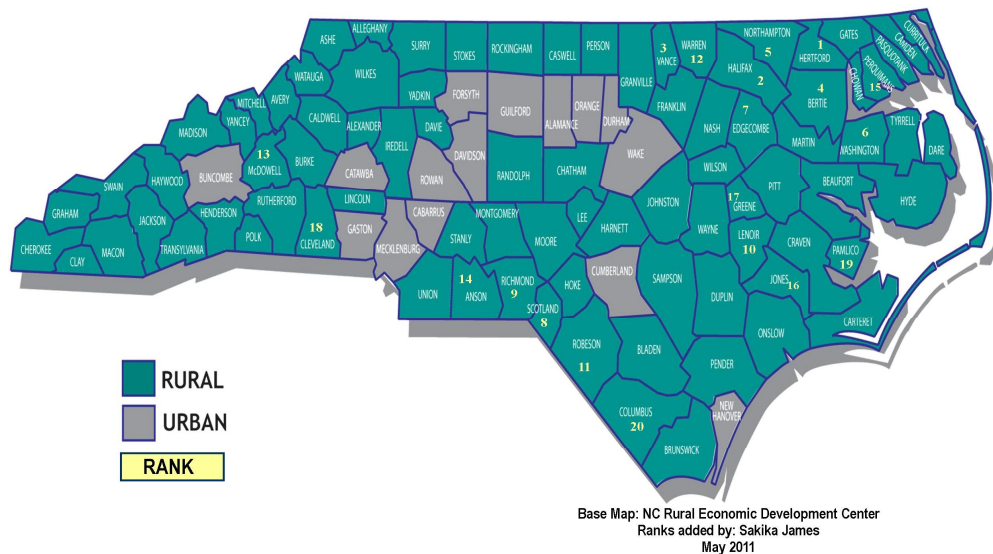


Figure 7: Highest Teen Pregnancy Rate



Both variables in this category have all rural counties in the top tenth and twentieth percentiles. Tyrell County tops the highest percent uninsured category with 28.8%. The urban county with the highest percent uninsured is Alameda County with

21%. Hertford County (rural) topped the highest percentage teen pregnancy rates with 55.3%, and the highest percentage teen pregnancy rates for urban counties is Rowan County with 38.5%, nearly 17% lower than the highest rural county. Many of the rural counties listed in this category are surrounded by rural counties away from the state's clustered group of urban counties, it is likely that much of the workforce has lost jobs due to the out migration of manufacturing firms over recent years, and many of the counties in the southeast of the state, which are only anchored by Cumberland County lost manufacturing jobs, as well as the significant decline in tobacco farming. The counties in the southeast close to the South Carolina border (e.g. Robeson County) have lower education and employment percentages, as well, these rankings are likely interrelated.

4.2.4 Population and Demographics

Figure 8, "Percent 18 – 44", provides a listing of the twenty counties with the highest population of citizens in the indicated age category, noting which counties are urban and rural.

Figure 8: Percent 18 - 44

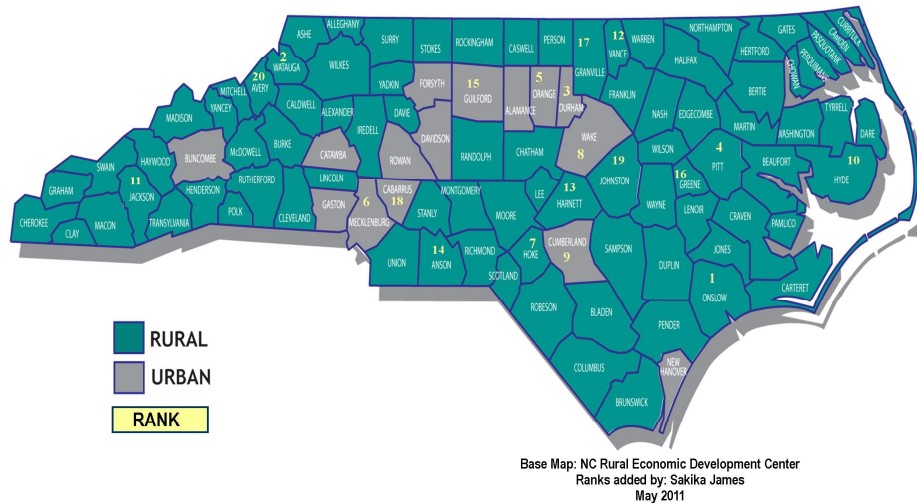
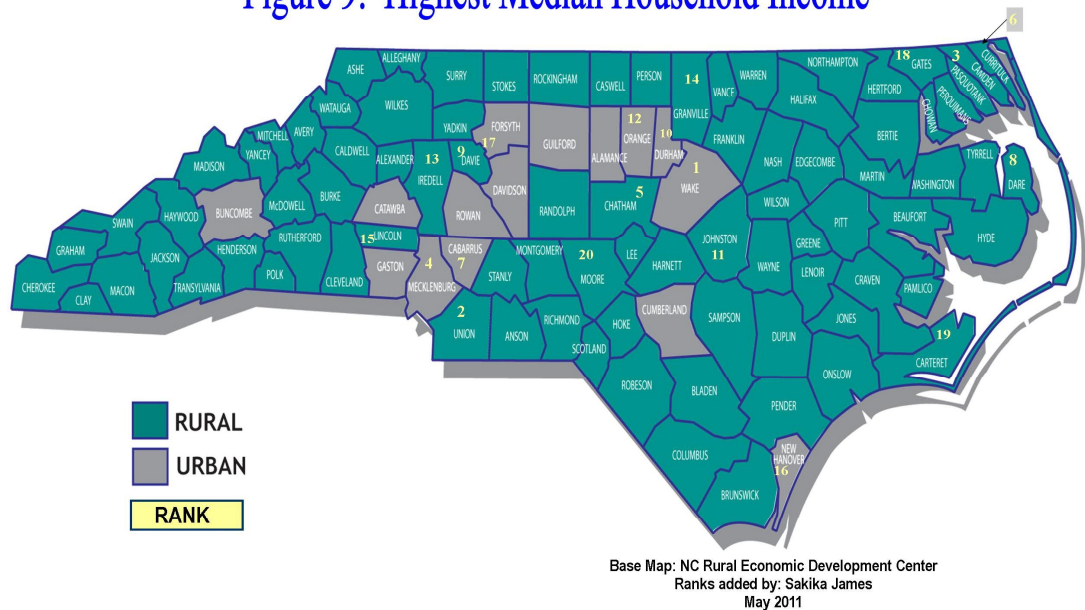


Figure 9, “Highest Median Household Income”, lists the twenty counties with the highest median household incomes, also indicating which counties are urban or rural.

Fifty-three percent of North Carolina’s urban counties are represented in the top twenty for the age eighteen to forty-four, while only about 14% of rural counties are represented. Figure 8 shows that twelve of the top twenty counties are in the center of the state within a county or two from one of the state’s urban counties. A large number of the state’s top colleges and universities are centered in this area, as are many innovative and professional jobs; as such it would be fitting for this age group to cluster around these schools and job opportunities. One would likely see more people close to retirement age located on both the coast and in the mountains. Figure 9 shows a similar grouping for the highest median household income, with the exception of a few rural counties located near the coast, the counties in the top twentieth percentile for median household income are urban counties or anchored by urban counties mostly in the center of the state. It is likely

the higher ranking rural counties like Union and Chatham Counties commute to urban counties of Mecklenburg and Wake to work, as Mecklenburg is a large financial center and Wake County is known for high tech and research and development firms.

Figure 9: Highest Median Household Income



4.3 Regionalism

The second major finding was that **regional development/collaboration has been beneficial in both urban and rural counties**. Specifically, regionalism has been most beneficial statewide in terms of labor/employment and education. These are the two quality of life issues that economic development professionals identified as most important to citizens, and most addressed as seen in each region's annual report. The second hypothesis was explored by utilizing a questionnaire/survey and publications, mainly annual reports developed by the state's economic development partnerships.

Regionalism findings are discussed below with sections for the questionnaires followed by annual report discussions.

4.3.1 Questionnaires

Questionnaires were sent out to all 100 County Managers asking for input on quality of life, economic development and regional relationships. Responses included eight questionnaires and an interview. Although there was a small rate of response, five of the seven regions were represented in the response pool, and respondents provided relevant information supporting the belief that regional development is beneficial in both rural and urban counties in North Carolina. Data discussion in this section will be organized by region, as designated by the state, including the following regions: AdvantageWest, Piedmont Triad Partnership, North Carolina's Northeast Commission, North Carolina's Eastern Region and North Carolina's Southeast region. The specific questions presented to the counties can be found in Table 6 and a summary of the respondents and their responses are provided in Appendix A. Some of the questions were posed as open ended questions to encourage an open dialogue. This worked well as it led to an interview with Dr. Patricia Mitchell, the Director of Economic Development for Ashe County and it also sparked a separate response addressing nontraditional quality of life variables by Vice President of Project Development for the Northeast Commission, which reminded us of some of the non-measurable amenities that often impact quality of life in rural settings such as waterfront access, knowing your neighbors which lends to the sense of community, and less vehicle congestion. Although these amenities are

present in rural counties, they can be marketed regionally as access to nontraditional recreation and nature.

4.3.1.1 AdvantageWest

Three counties in the AdvantageWest Region - Madison County, Mitchell County and Transylvania County - provided questionnaire responses for this study, and Dr. Patricia Mitchell, CEcD, Director of Economic Development, Ashe County, provided an interview on February 25, 2011. The County Managers for Mitchell and Transylvania counties completed questionnaires, and the Madison County Library System Director completed the questionnaire for Madison County at the request of the County Manager. Examples of regionalism provided by the questionnaires for the AdvantageWest included: rural Transylvania Counties examples of collaborating to with neighboring counties to provide incentives to economic development projects, grants, linking lands and community's projects through local Council of Government and Dr. Mitchell's leadership and participation on boards of several organizations including the North Carolina Rural Development Center, North Carolina Economic Development Association and HighCountry and chairing AdvantageWest. By being actively involved in regional organizations Dr. Mitchell works to promote regional development by working with community colleges and hospitals to develop curriculums to promote growth in the medical arenas, linking with regional development organizations and providing economic development advice to Commissioners. Dr. Mitchell believes supporting regional development will help build a diversified economy, which makes for a stronger region overall.

While Mitchell County identifies infrastructure as one of the bigger challenges, Transylvania County lists employment as the greatest challenge; Madison County lists population/demographics as its major obstacle, citing the small workforce as deterrence for even small manufacturing companies. Transylvania County has collaborated with surrounding counties to address labor concerns by contributing to incentive packages to attract firms, the county is currently working with four other counties (not identified in the questionnaire) in developing livable communities via a grant process, and the county is involved in a linking lands and communities project through their local Council of Government. In Mitchell County, the Economic Development Commission attempts to address infrastructure and other challenges on an annual basis. No plan of action to address the population/demographic issues was listed in the Madison County responses. In all three counties, labor/employment and education are listed as the most important quality of life indicators to the citizens. In terms of regional development, Madison County believes it would provide the energy to bring more jobs. Transylvania County notes that regional development is necessary as we live in a global economy, and Mitchell County's questionnaire noted that quality of life would remain about the same even with regional development efforts.

4.3.1.2 Piedmont Triad Partnership

Alamance and Guilford County provided feedback addressing obstacles to development and the benefits the counties could gain by developing regionally.

Alamance County's respondent was the County Manager, and the Internal Audit Director completed the questionnaire at the request of Guilford County's Manager.

Alamance County considered labor/employment as the major issue to promote development. The county's concern with training the workforce as they attempt to move away from an industrial/textile community was listed as an example. Education and labor/employment were listed as the top two quality of life indicators most important to the county's citizens, and it was noted that the quality of life indicators listed should not necessarily be obstacles to regional development. Instead the challenge is finding a way to get communities to overcome differences and work together to address quality of life regionally.

Guilford County's questionnaire response indicates the lack of jobs as the top development issue, which is being addressed by the Guilford County Commercial Grant Investment Program. Labor/employment and education are listed as the quality of life indicators most important to the citizens in Guilford County. It is also noted that regional development could help improve quality of life in the county as exemplified by the efforts to create the Heart of the Triad plan which involved Forsyth County, Guilford County, Greensboro, High Point, Winston Salem, Kernersville, and Oak Ridge. Increased intergovernmental planning agreements are suggested as a way to improve quality of life.

4.3.1.3 North Carolina's Northeast Commission

A response provided by one economic developer leader provided insight into how this rural region views quality of life in a somewhat different light than more urban regions. Anita Johnson, Vice President of Project Development for the Northeast Commission, provided input separate from the questionnaire. Ms. Johnson notes that

quality of life could in fact point to the absence of urban stressors, an abundance of recreational opportunities, and being a part of a smaller community where you know your neighbors and those who serve you in local businesses. Often these are factors that cannot be articulated in quantitative analyses, but remain valuable to many rural communities in the Northeast Commission, she asserted. Halifax County's County Manager, Tony Brown, returned the questionnaire noting that regional development would provide cultural and social improvements, and adding that the county is addressing economic development obstacles by making it a priority, and building an industrial park.

4.3.1.4 North Carolina's Eastern Region

Wilson County's Manager provided feedback for this study. Education and labor were the two quality of life indicators in this study ranked as the two obstacles the development within the county. The lack of funding for primary and secondary education has created a dilemma; while specialized jobs are being created the workforce is under qualified. Utilizing newspaper and school surveys along with an involved strategic plan approach revealed that Wilson County citizens rank health/wellness concerns and population/demographic issues the most important quality of life indicators.

4.3.1.5 North Carolina's Southeast

Robeson County's questionnaire was provided by the County Manager, Ricky Harris. Labor/employment and population/demographics were listed as the two obstacles to development in the county, 12% unemployment rate was listed as an example. Committing energy and money to economic development were listed as the county's plan to address the obstacles listed. Labor/employment was listed as the most important

quality of life indicator for the county's citizens. The county has embraced regional development by becoming a part of the Fort Bragg Regional Alliance, which "coordinates the planning and identify community impacts as U.S. Forces Command and U.S. Army Reserve Command move to Fort Bragg," (<http://www.bractf.com/>, 15 May 2011).

4.3.2 Annual Reports

The most recent annual reports and other publications for each of the state appointed seven economic developments regional partnerships were used to supplement this analysis because a low percentage of the counties returned their questionnaires or provided interview access in time to complete findings for this study. Data discussion in this section will be organized by region, as designated by the state, including the following regions: AdvantageWest, Charlotte Regional Partnership, Piedmont Triad Partnership, Research Triangle Partnership, North Carolina's Northeast Commission, North Carolina's Eastern Region and North Carolina's Southeast region.

4.3.2.1 AdvantageWest

As the name suggests, the AdvantageWest region is situated in the western part of North Carolina. The region is made up on twenty-three counties, which are listed below in Table 8 – "AdvantageWest Counties".

Table 8 – AdvantageWest Counties

Alleghany	Clay	McDowell	Wilkes
Ashe	Graham	Mitchell	Yancey
Avery	Haywood	Polk	
Buncombe	Henderson	Rutherford	
Burke	Jackson	Swain	
Caldwell	Macon	Transylvania	
Cherokee	Madison	Watauga	

Tommy Jenkins, Chairman of the Board for AdvantageWest writes, “Started in 1994, AdvantageWest has become a model for regional economic development, creating partnerships and providing visionary leadership in almost every aspect of the economy in Western North Carolina,” (AdvantageWest 2010, 2). The annual report list several collaborations and partnerships from both the public and private sector in year 2010 economic development efforts including Appalachian State University, AT&T, Biltmore Estates, Carolina First Bank, Duke Energy, Google, NC Department of Commerce, Western Piedmont Council of Government and several others.

A major economic development theme throughout the annual report is entrepreneur development. Regional collaboration helped bring Reich LLC, a German company, to the Western North Carolina beating out competitors like Charlotte, Fairfax and Chattanooga. The company ultimately decided on Asheville. “Entrepreneurship is

high in Western North Carolina (17.5% of the work force) than that of our state and nation (15.2%),” (AdvantageWest 2010, 11). The Blue Ridge Entrepreneurial Council (BREC) continues to be an integral partner in this success, in 2010 BREC helped more than fifty new businesses startup or expand. AdvantageWest also created the Certified Entrepreneurial Community (CEC) program to promote entrepreneurship at the local level; this program was the first of its kind in 2007, with the goal of making communities entrepreneur-ready. “CECs bring together a team of community leaders, including representatives from local government, educators, business people and established entrepreneurs to develop resources, policies, regulations and opportunities that help entrepreneurs start and sustain new businesses,” (AdvantageWest 2010, 15). Tapping into the wealth of natural resources and growing “green” economy has also been used as a regional development growth method in the AdvantageWest via a partnership with AdvantageGreen, which fosters green job creation and retention in the region.

A summary of the successes noted in the AdvantageWest 2010 Annual Report is listed in Appendix B. Out of the twenty-two notable successes listed in the summary a great deal of the regional development focused on labor/employment and education. Thousands of jobs were created region wide, college and business partnerships were created and/or strengthened, regional community colleges competed with and ranked higher in an innovation and technology competition than national known MIT, millions of dollars invested in green economy and several other notables mark the benefits of regional efforts on both labor/employment and education in the AdvantageWest.

4.3.2.2 Charlotte Regional Partnership

The Charlotte Regional Partnership, known as Charlotte USA, is made up of twelve counties in North Carolina and four counties in South Carolina; all of the region's counties are listed in Table 9 – “Charlotte Regional Partnership Counties”. Economic development leaders in the region did not respond to the questionnaire, therefore, information used in this section will be from the Charlotte USA publications.

Table 9 – Charlotte Regional Partnership Counties

Alexander	Chester	Iredell	Rowan
Anson	Chesterfield	Lancaster	Stanly
Cabarrus	Cleveland	Lincoln	Union
Catawba	Gaston	Mecklenburg	York

Diversity has played an integral role in Charlotte USA's development with target sectors including film, health, defense, energy, finance, motorsports, international business and tourism <http://charlotteusa.com/> (last accesses 9 May 2011). Charlotte USA is a more urban regional partnership than AdvantageWest, with one of the country's largest cities, Charlotte, NC, at the center of the region. The partnership has more than 100 private partners and over a dozen local government partners who make financial commitment to foster regionalism. Collaborations with public and private partners like member county governments, the City of Charlotte, the North Carolina Department of Commerce, Carolina Panthers professional football team, Bank of America, Time Warner

Cable among others has lead to major regional development accomplishments. These accomplishments include: the Apple data center locating in the region, which is the largest capital investment project on North Carolina's history, the expansion of GMAC to add over 200 jobs, a national engineering building from Toshiba Nuclear Engineering, and Daimler North America relocating more corporate functions and creating hundreds of jobs (Charlotte USA 2010).

Regional collaboration and successes are noted in Appendix B, these items are all items listed in the partnerships fiscal year 2009 through 2010 annual report. Nearly all the accomplishments listed and described in the annual report fall under labor/employment initiatives with millions of dollars invested in several counties by companies expanding or locating in the region. The partnership also saw a funding increase from private donors to their organization. Marketing efforts were also boosted on both the national and international level.

4.3.2.3 Piedmont Triad Partnership

Located in the center of North Carolina, the Piedmont Triad Partnership has twelve member counties including: Alamance, Caswell, Davidson, Davie, Forsyth, Guilford, Montgomery, Randolph, Rockingham, Stokes, Surry and Yadkin. Major investors in the region include the US Department of Labor, BB&T, Reynolds America, Wake Forest Baptist Medical Center, Old Dominion Freight, City of Greensboro, City of High Point, Randolph County and many more. One regional development effort was the University Transformation Team, which consists of leaders at major colleges and

universities in the region to focus on design innovation. Marketing is also a major effort identified in the 2009 Annual Report.

Partnering with the local economic development offices, the North Carolina Department of Commerce and other allies, the Partnership has worked aggressively to identify and reach these consultants and growth-minded companies in target industry sectors. The collaboration helps the Partnership present a unified identity and maintain a cost efficient marketing campaign, (Piedmont Triad Partnership 2009, 10).

Collaborative successes in the Piedmont Triad Partnership include a research and development agreement between R.F. Micro and the Joint School of Nanoscience and Nanoengineering. The North Carolina Center for Global Logistics is another partnership creation developed to address logistic issues in the furnishing industry. The Partnership launched a lifelong learning and literacy program, “Get Not Out of Your Life” in April 2010 “It means that anyone who told you that you’re not smart enough, not the right age or not qualified can be proven wrong, and the program is designed to promote literacy and lifelong learning and brand the Piedmont Triad as the leader in building a well-educated, qualified and motivated workforce,”

<http://www.piedmonttriadnc.com/news/default.aspx#h12> (last accessed 9 May 2011).

A summary of the regional development successes aimed at improving quality of life for all regional counties can be found in Appendix B. A close look at the latest available annual report summary reveals the Piedmont Triad Partnership’s efforts and success have also been focused in areas of labor/employment and education. However, the efforts have been regional in extent, as portrayed by the Transformation Grants aimed

at helping underserved areas in all twelve counties. Grants have been used to boost and retain education in the healthcare sector.

4.3.2.4 Research Triangle Partnership

The Research Triangle Partnership region consists of the following counties: Chatham, Durham, Franklin, Granville, Harnett, Johnston, Lee, Moore, Orange, Person, Vance, Wake and Warren. It also includes the Research Triangle Park (RTP). Economic development leaders directed me to the region's five year strategic plan in lieu of answering the questionnaire, and also suggested I visit the region's *Quality of Place* page for additional information. The region's websites section on clusters list twelve strong sectors which include advanced medical care, defense technologies, nanoscale technologies, biological agents and infectious diseases to name a few.

Examples of successful regional partnership in the Research Triangle are evident in comments like those made by Madhu Beriwal, President of IEM, a 25 year old risk management company that provides security solutions to the government and other companies, "The region's culture of collaboration among government, academia and the private sector provides fertile ground and a business-friendly environment for companies to grow," <http://www.researchtriangle.org/news-and-events/iem/> (last accessed 10 May 2011). Other accomplishments of regional collaboration include: the implementation a five year plan in 2004 that lead to the creation of "more than 110,000 new jobs across the region and strong gains in targeted clusters, particularly life sciences and technology," (Research Triangle Regional Partnership 2009, 5), CenturyLink locating a headquarters in the Research Triangle Region due in part to the high-tech labor force, and organizing

over ninety regional development organizations to help implement the five year plan, which will likely open the door for continued collaboration and resource pooling.

Appendix B contains a summary of the Research Triangle Regional Partnership's 2010 Annual Report. All notable success listed in the annual report fall into two categories, labor/employment and education. There are several examples showing regional collaboration impacting quality of life in terms of job creation, marketing efforts improving to better market rural counties for their industrial and commercial parks, which in turn could impact labor/employment, and efforts to help early colleges become of regional economic development.

4.3.2.5 North Carolina's Northeast Commission

North Carolina's Northeast Commission is a region containing sixteen counties: Beaufort, Bertie, Camden, Chowan, Currituck, Dare, Gates, Halifax, Hertford, Hyde, Martin, Northampton, Pasquotank, Perquimans, Tyrell and Washington. The Northeast Commission's mission is to "increase the standard of living in the sixteen county region of Northeast North Carolina through industrial, business and tourism development as well as improve economic condition by marketing the regions excellent amenities of business, tourism and quality of life"(North Carolina's Northeast Commission 2011, 3).

Partnership successes based on this mission include: Reser's Fine foods expansion adding 500 jobs, the opening of the North Carolina Center for Automotive Research, and collaboration with the state's Eastern & Southeastern Regional Partnerships to market a larger, 38-county, tourism region in the state. The Northeast Commission also annually works to obtain grants to fund cluster-based projects. In 2009-2010 they received

funding to help educate and train biotech farmers, research tourism marketing avenues, and open new facilities (North Carolina's Northeast Commission 2011).

A summary of the Northeast Commission's regional development success is provided in Appendix B, all of the items noted fall under labor/employment and education. A large amount of money helped retain and create jobs throughout the region, sponsor research at Elizabeth City State University and provide training to promote biotech crops and promote agricultural biotechnology.

4.3.2.6 North Carolina's Eastern Region

Carteret, Craven, Duplin, Edgecombe, Greene, Jones, Lenoir, Nash, Onslow, Pamlico, Pitt, Wayne and Wilson are the member counties of North Carolina's Eastern Region.

"Although not all counties have benefitted equally, job growth has occurred in every one of our targeted economic clusters - advanced manufacturing, aerospace/defense, life science, logistics, marine trades, and value-added agriculture. Even our tourism sector rebounded slightly in 2010" (North Carolina's Eastern Region 2010, 4). A number of collaborative efforts were made to foster continuing development and growth for the entire region. For example, the BioEast Alliance and the Centers of Innovation were developed to foster economic growth in the life sciences and increase the presence of biotechnology research and development. Also, the Economic Development Advisory Group began to travel and promote and recruit for the region based on agreed up target clusters (<http://www.nceast.org/nc-east-centers-of-innovation>, 13 May 2011).

See Appendix B for a summary of regional development successes outlined in the Eastern Region's latest annual report. As with several of the other regions the largest portion of successes are listed in labor/employment. Grants and new alliances have helped boost interest in business start-ups, create jobs region wide, and provided tuition assistance for the region's military veterans and their spouses. Local and regional grants were awarded and the tourism sector received attention via a mini summit. All of these efforts are regional in impact, they are not self contained efforts promoting a single city or a single county they provide funds, advertisement, and lobbying efforts that will impact rural and urban counties in the region, the same holds true for the efforts in all of the state's regional partnership efforts.

4.3.2.7 North Carolina's Southeast

North Carolina's Southeast region is made up of eleven counties: Bladen, Brunswick, Columbus, Cumberland, Hoke, New Hanover, Pender, Richmond, Robeson, Sampson and Scotland. Robeson County provided responses for this study. The *North Carolina's Southeast 2009-2010 Annual Report* provides an outline of targeted clusters and identifies some success spurred by regional development. The targeted clusters/sectors include: building products, advanced textiles, distribution and logistics, boatbuilding and marine trades, metalworking, food processing and agri-industry, military contractors, biotechnology, and energy. The region's annual report list progress in each of the categories; some of the highlights include: "approval for \$30 million marine biotechnology research center at UNCW", expansion of advanced textile companies Richmond Yarns and Therafirm Compression Hosiery, the opening of a

biomass facility in Scotland County, and other companies in target sectors opening in several of the region's counties (North Carolina's Southeast 2011, 5). In addition to expansion and growth, North Carolina's Southeast Region has partnered with several entities to put strategic initiatives in place to improve quality of life. A pool of federal and state funds is being used to assess the region's workforce, the project have participants from community colleges, public universities, state departments and regional Workforce Investment Boards (North Carolina's Southeast 2011). Another initiative, the "BizBoost" program, was created through a partnership with the North Carolina Small Business and Technology Development Center to nurture small businesses by providing technical support and market information among other services.

Appendix B contains a summary of the regional success listed in the annual report discussed above. Labor/employment, education and renewable energy efforts are the highlight of the annual report. One important success that may be overlooked is the completion of a regional growth management plan. Such a plan can provide focus and direction that has been discussed and agreed upon by economic developer leaders region wide. A regional growth management plan can foster and build stronger relationships that will help develop a regional community and structure growth. Other successes included in the annual report include millions of dollars in capital investment, job growth due to several company expanding, as well as new companies locating in the region, and the development of relationships with other regions in the state that can help statewide development.

As the current economic climate remains volatile, strategic planning and regional development efforts are vital to preserving and improving quality of life in North Carolina. While the majority of the counties in the state are rural, data in this research suggests that urban counties rank higher in some measurable quality of life indicators. There appears to be a significant correlation between a county's designation as urban or rural and their ranking in the quality of life indicators used for this study. Regional development and collaboration has improved quality of life indicators throughout the state, each region's annual report touts millions of dollars invested in labor/employment and education and some investments in energy related business, and support for military veteran's and underserved areas. None of the regions appear to commit a lot of their efforts to health and wellness and population/demographic issues; however, it also appears that overall most citizens are more concerned with labor/employment and education than other variables. Every region's annual report had more successes listed in labor/employment than any other category. A robust workforce with people gainfully employed can impact health and wellness, population and demographics and other quality of life variables.

CHAPTER V

CONCLUSION

Acknowledging the importance of remaining competitive in a global economy during a presently challenging economy, this thesis assessed quality of life indicator differences in North Carolina's urban and rural counties and explored the positive impact of regional development on quality of life in both urban and rural counties. The two hypotheses posed were: (1) ***urban counties in North Carolina have higher measurable quality of life indicators than do the state's rural counties, and (2) embracing regional development would benefit both urban and rural counties.*** Findings demonstrated that:

(1) North Carolina urban counties rank higher than rural counties in all the indicators used here with the exception of those with a negative connotation, which were those with high uninsured and high teen pregnancy rates;

(2) Clusters of high quality of life indicator scores also appear around counties with a military presence in the South and the East;

(3) In the northeast corner of the state counties are likely have higher quality of life indicators due to their proximity to the Hampton Roads area of Virginia; and

(4) Regionalism has been beneficial statewide in terms of labor/employment and education. These are the two quality of life issues most important to citizens, and most addressed as seen in each region's annual report.

The literature review revealed that there are several issues that are obstacles for both urban and rural counties, and there are many who believe some variables provide a more accurate view of quality of life than do others. This study focused on variables that seem to be the least controversial, but also quantitative in nature. Quality of life indicators for labor/employment, education, health and wellness, and population and demographics were considered for North Carolina's 100 counties. Analyses of the means for urban and rural counties and maps of the top twenty counties for each variable and tables ranking all 100 counties were used to test the first hypothesis.

Regional development was considered through questionnaires/interviews from economic developer professionals. Responses to questionnaires and requests for interviews were limited; only eight counties responded (See Appendix A). However, at least one county from each economic development partnership provided feedback, which gave some insight into what economic development professionals considered to be current issues in regard to both quality of life and regional development. The latest annual reports for each of the seven state's appointed economic development regions were used to demonstrate regional development successes, which impact both rural and urban counties. A regional approach to development has been beneficial in each of the state's seven economic development partnerships. While counties in each region may identify different obstacles to development in the counties they serve, regional collaborations and partnerships are used to address obstacles. Each partnership has worked with public and private sector partners to market their regions, recruit companies

to bring jobs to their area, foster research and development, support small business growth, assess the workforce among other tasks.

The questionnaires revealed that citizens are mainly concerned with labor/employment and education factors that impact their quality of life. The professionals responding to the survey also list labor/employment and education as two of the top obstacles to development. To address these obstacles a great deal of effort and time have been spent focusing on these two areas, which is evident by the fact that for all of the annual reports labor/employment and education were almost the only areas of discussion. Annual reports for the partnerships list numerous jobs added and retained, company expansions, and even new region to region partnerships. A summary of each region's success can be found in Appendix B.

As the nation's economy remains fragile, governments attempt to do less with more which can often impact quality of life because amenities and services may have to be cut to preserve essentials. Quality of life can influence where people decide to live, work or play. Major corporations and businesses also consider quality of life when they decide to expand, open a new location or startup. As businesses are downsizing, banks are handing out less loans, and the housing market slowly tries to come back. It is vital that county governments preserve and protect the sound businesses, workforce and quality of life they currently have and market themselves to attract new opportunities for growth.

North Carolina, like many other states, has economic development and quality of life challenges in regions and counties that are attempting to rebrand themselves create

new economic growth sectors and market themselves to new clients. North Carolina is a largely rural state, but also has some strong urban counties that are viewed nationwide as models for development like the region surrounding Charlotte in Mecklenburg County and the region around the Research Triangle Park. People in urban and rural counties are mobile and may work, socialize, study and conduct business outside of drawn county lines; therefore, job growth and educational opportunities in a region will benefit all member counties. Urban counties outrank rural counties percentage wise in all of the positive quality of life indicators (e.g. low unemployment, high college degree recipients, high percent of professional workers, high median household income) and rural counties rank higher percentage wise in highest percentages of uninsured and higher teen pregnancy rates. Rural counties that were in the top twentieth percentile for positive indicators were clustered around Buncombe County in the west, the large cluster of urban counties in the center of the state, around military counties in the eastern region, or near the Virginia Hampton Roads MSA in the Northeast. While urban counties may out rank rural counties percentage wise in most of the quality of life indicators in this study, the fact remains that as a state, North Carolina is for the most part a rural state, and as such improving quality of life in rural counties should be a priority.

Quality of life is likely the foundation to a sound and comprehensive plan for development – on any government level. As the rural counties surrounding urban counties can learn from and benefit from the success in urban counties it is important that counties like those in the southern and eastern regions of the state that do not have access to a urban county cluster to identify and market the amenities and positive quality of life

features they do have, and work with surrounding rural counties to find innovative means to develop and grow. Each North Carolina region has marketable amenities including tourism, education, infrastructure, coastal access, transportation, but these amenities do not have a county-limited impact on quality of life so it makes sense for counties to identify their development obstacles and work with surrounding urban or rural counties to define a regional vision and approach for development. In a global economy, innovation and collaboration are relevant even on the county level. North Carolina's ability to foster the sense of development and community on the county and regional level could likely position it to compete more effectively on the state level, which could help position the nation to compete better internationally.

Future studies in North Carolina could question if a military presence in rural counties could foster greater development and improve quality of life as effective as being located near a larger urban county. It would also be beneficial to compare and contrast the regional success of the state's economic development regions asking if one region is more successful, what approach to development has been successful and what are the obstacles that each region continues to face as they erase county lines and attempt to organize regional collaboration. This study is limited in that all variables impacting quality of life cannot be addressed and some indicators likely impact others. Also a low percentage of input was directly provided by way of questionnaires. Future studies can address these limits by including both quantitative and qualitative measures and obtaining more interviews or questionnaires from both development professionals and citizens may

foster a much needed dialogue to improve on quality of life indicators most relevant to citizens.

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A1 - AdvantageWest Questionnaire Summaries

County:	Ashe
Respondent:	Interview with Dr. Patricia Mitchell, CECD, Director of Economic Development, Ashe County Government (25 February 2011)
Major Development Obstacles:	Workforce Development; Labor/Employment
Plans to Address Obstacles:	Collaboration with community colleges, hospitals, and other regional development organizations. Provide advise to Commissioners.
Indicators Most Important to Citizens:	Labor/Employment
Quality of Life Relative to Other Counties:	About the same
Development Projects with Neighboring Counties:	Serve on Boards for NC Rural Development Center, NC Economic Development Association and HiCountry and Chair for AdvantageWest
Regional Development Obstacles:	Political jurisdiction
Impact of Stronger Regional Relationships on Quality of Life:	Diversified economy

County:	Madison
Respondent:	Kathleen Philips Madison County Library Sytem Director at request of County Manager Steve Phillips 18 February 2011
Major Development Obstacles:	Population/Demographics & Education
Plans to Address Obstacles:	Unsure
Indicators Most Important to Citizens:	Education & Labor/Employment
Quality of Life Relative to Other Counties:	Could learn from surrounding counties
Development Projects with Neighboring Counties:	Not aware of any
Regional Development Obstacles:	Education & Population/Demographic Issues
Impact of Stronger Regional Relationships on Quality of Life:	Would provide necessary energy to overcome some of the obstacles and provide better opportunity to attract jobs.

County:	Mitchell
Respondent:	Charles Vines County Manager 17 February 2011
Major Development Obstacles:	Population/Demographics & Labor/Employment
Plans to Address Obstacles:	Addressed by the Mitchell County EDC several times a year.
Indicators Most Important to Citizens:	Education & Labor/Employment
Quality of Life Relative to Other Counties:	About the same
Development Projects with Neighboring Counties:	None
Regional Development Obstacles:	Population/Demographic Issues & Labor/Employment
Impact of Stronger Regional Relationships on Quality of Life:	It would remain about the same because most surrounding counties are small rural counties without sufficient infrastructure, but a good workforce and good education.

County:	Transylvania
Respondent:	Transylvania - Artie Wilson, County Manager 17 February 2011
Major Development Obstacles:	Population/Demographics & Labor/Employment
Plans to Address Obstacles:	Economic Development Strategic Plans developed by Board of Commissioners and Economic Advisory Board are being implemented.
Indicators Most Important to Citizens:	Education & Labor/Employment
Quality of Life Relative to Other Counties:	About the same, but to have planned and sustainable growth we must consider land use planning and zoning as utilized in urban counties.
Development Projects with Neighboring Counties:	Contributing incentives to economic development projects with neighboring counties, grants, linking lands and community's projects through local Council of Government
Regional Development Obstacles:	Education & Population/Demographic Issues
Impact of Stronger Regional Relationships on Quality of Life:	We would be able to offer higher quality services and more services than we can individually.

A2 - Piedmont Triad Partnership Questionnaire Summaries

County:	Guilford
Respondent:	Martha Rogers, PhD, CIA, CPA - Internal Audit Director at request of County Manager Brenda Fox 17 February 2011
Major Development Obstacles:	Workforce Development; Labor/Employment
Plans to Address Obstacles:	Grant Investment Programs to help grow jobs for small companies.
Indicators Most Important to Citizens:	Labor/Employment and Education
Quality of Life Relative to Other Counties:	Could learn from surrounding counties.
Development Projects with Neighboring Counties:	Heart of the Triad was a collaborative plan for economic vitality and quality of life involving Forsyth County, Guilford County, City of Greensboro, High Point, Winston Salem, Kernersville and Oak Ridge.
Regional Development Obstacles:	Politics and communication
Impact of Stronger Regional Relationships on Quality of Life:	Would improve quality of life for citizens. We should have more intergovernmental planning agreements.

County:	Alamance
Respondent:	Alamance - Craig Honeycutt, County Manager 22 February 2011
Major Development Obstacles:	Education/training of workforce & moving away from industrial/textile community.
Plans to Address Obstacles:	Collaboration with community colleges to provide more opportunities.
Indicators Most Important to Citizens:	Education & Labor/Employment
Quality of Life Relative to Other Counties:	About the same as surrounding counties.
Development Projects with Neighboring Counties:	None listed.
Regional Development Obstacles:	Overcoming community differences
Impact of Stronger Regional Relationships on Quality of Life:	None listed

A3 - Northeast Commission Regional Success Summary

County:	Halifax
Respondent:	Tony Brown, County Manager 17 February 2011
Major Development Obstacles:	Labor/Employment & Health/Wellness
Plans to Address Obstacles:	Focusing on economic development & new industrial park
Indicators Most Important to Citizens:	Labor/Employment and Education
Quality of Life Relative to Other Counties:	Better than surrounding counties
Development Projects with Neighboring Counties:	None listed
Regional Development Obstacles:	Population/demographic issues
Impact of Stronger Regional Relationships on Quality of Life:	Cultural and social improvements

A4 - Southeast Region Questionnaire Summaries

County:	Wilson
Respondent:	Ellis Williford, County Manager 17 February 2011
Major Development Obstacles:	Labor/Employment & Education
Plans to Address Obstacles:	Additional funds are needed to address issues.
Indicators Most Important to Citizens:	Labor/Employment
Quality of Life Relative to Other Counties:	About the same as surrounding counties.
Development Projects with Neighboring Counties:	Efforts to improve labor pool
Regional Development Obstacles:	Population/Demographics & Labor/Employment
Impact of Stronger Regional Relationships on Quality of Life:	None

A5 - Eastern Region Questionnaire Summaries

County:	Robeson
Respondent:	Ricky Harris, County Manager 17 February 2011
Major Development Obstacles:	Labor/Employment & Population/Demographics.
Plans to Address Obstacles:	Commit energy & dollars to economical development
Indicators Most Important to Citizens:	Labor/Employment
Quality of Life Relative to Other Counties:	About the same as surrounding counties.
Development Projects with Neighboring Counties:	Efforts to improve labor pool and
Regional Development Obstacles:	Labor/Employment
Impact of Stronger Regional Relationships on Quality of Life:	Joined Base Realignment and Closure Regional Task Force

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B-1 AdvantageWest Regional Development Success		
Labor/Employment	Education	Other
160 national site consultations through one-on-one meetings	300 schools across the country participated in the 2nd Juicy Ideas Competition.	175 Western North Carolina companies and local governments attended the first Clean Energy Now Conference
61 project leads	AB-Tech Community College placed 2nd in technology innovation competition between Stanford (1st) and MIT (3rd).	\$25000 grant awarded to Blueridge Food Ventures to expand Farm Outreach Program
20 first-time Advanced Manufacturing client visits	Launched regional collaboration with Lahn-Dill region of Germany and Western Carolina University	\$235,000 grant received by AdvantageGreen for the project Realizing the WNC Natural Products Industry
7th Carolina Connect Entrepreneur & Investor Conference drew 300+ entrepreneurs and investors from across the Southeast	DigitalChalk, launches startup in 2007 and saw 300% growth in 2010 and featured in Wall Street Journal	\$549,177,000 in taxable investment announced in the region.
1,921 new jobs announced in the region	Created the AdvantageGreen Energy Internships Program 2010 - placed 12 recent graduates of NC colleges and universities in clean energy positions at several businesses and organizations in the region	Launched the nation's first shared-use Natural Products Manufacturing Facility
Facebook announced plans to invest \$450 million in data center near Forest City in Rutherford County		
Reich GmbH, German manufacturer decides to locate in region bringing estimated 79 jobs and \$33 million investment		
Helped Stanley Furniture Company secure a grant from NC Rural Center to bring down fuel costs & helped secure \$1,000,000 Golden LEAF Foundation grant for Graham County to upgrade production line.		

<p>AdvantageWest Opportunity Loan Fund - \$605,000 and 15 high- growth businesses supported. Helped more than 55 new businesses prepare to launch and grow.</p>		
<p>Winter Sun Farms supported 13 regional farmers and processed close to 15,000 pounds of fresh produce for 225 subscribers.</p>		
<p>7 new communities entered the Certified Entrepreneurial Community certification process</p>		

B-2 Charlotte Regional Partnership Development Success		
Labor/Employment	Education	Other
Generated 87 new qualified projects and facilitated 32 first-time visits by these companies, as a result of our 2009-2010 marketing and business development activities.	Sponsored UNC Charlotte and NC biotech events	Sponsored Energy, Inc. in collaboration with Charlotte Business Journal and Duke Energy to further promote region as nation's, "New Energy Capital"
Lincoln County - Spantek Expanded Metal (\$1 million, 25 jobs)		Sponsored Transatlantic Climate Partnership
Mecklenburg County - Electrolux (\$8.3 million, 738 jobs); Total Quality Logistics (\$2 million, 15 jobs); Husqvarna (\$2.75 million, 160 jobs), Biotage (\$4 million, 21 jobs); LINET (New plant & Headquarters, 10 jobs)		
Iredell County - CRP (25 jobs)		
Lancaster County - Nutramax Laboratories, Inc. (\$12.5 million, 203 jobs)		
Involved in 222 prospective projects and provided site location, crew, equipment, stage and support service information for commercials, independent films, television series and still photo shoots. - more than 25 TV projects and 65+ commercials.		
Private cash and in-kind funding increased by 22.7%		
Worked trade shows and visited dozens of consultants and companies in target sectors nationally and internationally.		

B-3 Piedmont Triad Partnership Development Success		
Labor/Employment	Education	Other
New committee spearheading development of Global Logistics Task Force to create thousands of new jobs across the region.	Piedmont Triad University Transformation Team - Establishment of a steering committee and 2 task forces	WIRED 11 Transformation Grants for total impact of almost \$1.4 million. 90% addressed rural communities, minority populations, and underserved populations in all 12 counties.
Furnishings Cluster Business Plan	WIRED Grant Program: Youth Entrepreneurship Surry promoting entrepreneurship as a career option for high school students.	
Marketing Outreach: including 8 Prospect Visits; 19 NCDOC Prospect Visits, 75 visits with companies outside the Region, 12 Trade Show & Industry Events, 16 Site Consultant Visits to the Region, 50 Site Consultant Meetings, 4 Requests Filled for Site Consultants, 367 Research Request Fulfilled, 1,115 Leads Identified, 16 Media Placements	WIRED Grant Program: Allied Health & Nursing Careers Summit on Student Success and Retention Strategies	
Advancing Innovation Health Care Grants - 16 grants awarded for a total of \$1,014,438 with a leveraged amount of \$1,578,060, for a total impact of \$2,592,499.	Creative Enterprises & the Arts Cluster: Comprehensive Regional Strategy and Action Plan, The Architectural Education Feasibility Study, and the Piedmont Triad Design Consortium	
WIRED Grant Programs: Maturity Works Job Fair, CRAFT Program, Executive Training in Supply Chain, Logistics & Transportation Management, Comprehensive Glass Training Program,	25 grants awarded through multiple health care sector e to address healthcare workforce shortages	
Virtual Job Fair - 480 job openings posted, 5,539 resumes submitted	Connecting Students to Jobs of the Future 2 day event linking 70 high school counselors from 17 regional school districts to high-tech, high-wage career opportunities in the 4 largest target industry clusters	

B-4 Research Triangle Partnership Regional Development Success	
Labor/Employment	Education
\$1.9 billion in investment announcements from companies planning to relocate or expand within the 13-county region, creating more than 10,000 jobs.	Teamed with Lt. Gov. Walter Dalton and the state's Joining Our Business and Schools (JOBS) Commission to develop recommendations for how the state's early-college high schools can align themselves more closely with the economic development needs of their region.
EMC Corp, planning a \$280 million construction of a new research facility and data center in Durham County, adding nearly 300 jobs, as well as adding 100 new jobs at its manufacturing plant in Wake County.	
IEM, an international risk management and disaster modeling company, moved its global headquarters to RTP in Durham County creating 430 jobs over the next 6 years.	
Palziv North America, global leader in development and manufacturing of thermoplastic foam, investing nearly \$8 million to renovate space in Franklin County for advanced manufacturing operation and new North American headquarters, creating 80 to 100 jobs.	
Talecris Biotherapeutics \$269 million expansions of its manufacturing plant in Johnston County, creating more than 250 jobs.	
Carl Zeiss Optronics USA, Germany-based global provider of optical and optronic products and services for defense and security uses, is establishing its US headquarters in Wake County	
Through 1st Quarter of 2010, companies in life sciences, technology, defense and other industries have announced more than \$65 million in investments for projects that will create 900 jobs over the next few years.	
Regional developers now working with 48 companies who seek a location for their investments. These companies represent more than \$2 billion in investment and 11,000 jobs.	
Airlines serving RDU Airport expanded to several key locations including Milwaukee, Boston, St. Louis and LAX.	

Nearly 40 cities, counties and organizations in the region endorsed 3 guiding principles for quality growth to welcome an estimated 1.2 million new people and 700,000 new jobs over the next 20 years.	
Led marketing for Triangle North, the rural job creation effort that is developing a network of business parks to attract jobs and economic growth in Franklin, Granville, Vance and Warren Counties.	
Along with developers in the region's southern tier - Harnett, Lee and Moore counties, continued collaboration with Base Realignment and Closure Regional Task Force	

B-5 Northeast Commission Regional Development Success	
Labor/Employment	Education
Joined Southeastern and Eastern region to form Eastern North Carolina Tri-Regional Heritage Tourism Partnership	NC Center for Automotive Research opened in Northampton County
Reser's Fine Foods expansion in Roanoke Rapids - \$62,500,000 investment and 500 jobs	NC Northeast Alliance for Agricultural Biotechnology collaboration with area universities, agri-businesses and business development resources to build region as a center for biotechnology.
HQ Kites and Designs USA, Inc. - New facility in Currituck County - \$150,000 investment and 5 jobs	Co-sponsored the New Space Forum at Elizabeth City State University
NgateGen - agricultural researcher relocated to Elizabeth City. \$100,000 investment and 3 jobs.	Commissioned study showing that a 14% increase in aerospace and aviation-related jobs is projected for the 25 mile radius around Elizabeth City
Domtar - retained 325 jobs and \$69,000,000 investment equipment conversion to make fluff from wood products.	Golden LEAF Grant used to hire a consultant to write and produce B-Cert Program, a training and certification program for growers of biotech crops
Communications Systems, Inc - Media and real estate company located in Elizabeth City bringing \$200,00 investment and 10 jobs.	Assisted local schools in promoting their New Schools concepts to help match education to the region's future jobs
Triple S Internet Café' LLC located in Elizabeth City bringing \$200,000 investment and 10 jobs.	
Recovery Solutions, Inc - Tow truck bed fabricator located in Elizabeth City - \$1,000,000 investment and 30 jobs.	
Southern Ag Carriers, Inc. - Trucking company locating terminal in Edenton to service food processing companies. \$1,000,000 investment and 34 jobs.	
Committee of 1000, Inc. Membership which provides private funding to help partnership with marketing and client development.	
Marketing - 28 national and international conferences, trade shows and expos from Virginia to Canada, to Texas	
Supported grant writing for county and regional projects for a total award of \$650,000	

B-6 Eastern Region Regional Development Success		
Labor/Employment	Education	Other
\$283,000 in grant awards through Workforce Innovation Network Program to address needs of companies in region's emerging economic clusters.	Supported the Community College System's "Creating Success" campaign targeting critical issues like salaries, technology and customized training programs.	Launched "Green Certification" Program promoting environmentally responsible policies for businesses and industry.
Flex-Cap Local Grants - \$90,000 projected 524 jobs and \$205,542,000 investment.	Lobbied to maintain funding for More-at-Four and Smart Start Programs.	
Flex-Cap Regional Grants - \$135,000 projected 2,178 jobs and \$233,930,000 investment.	Military Growth Task Force received a Workforce Development Grant for \$900,000 to fund the Veterans Initiative Project designed to provide tuition support to veterans and military spouses.	
Partnering with BioEast Alliance and attended marketing conferences, and completed joining Labor Market Analysis to quantify the Alliance's ability to staff 1 or more new 400-new employee, fully integrated, biologics facilities.		
One of the founding members of Global Innovation Network which aims to link emerging life science regions to more effectively compete with similar more developed regions worldwide.		
Earmarked up to \$300,000 for a seed capital early stage venture fund to encourage business development. 124 business proposals received, 9 selected for review, 4 recommended for investor vote.		
Worked with NC Northeast Commission, ECU Center for Sustainable Tourism and New Bern/Craven County Convention and Visitors Center to co-sponsor the Eastern Carolina Sustainable Tourism Mini-Summit.		

B-7 Southeast Regional Development Success		
Labor/Employment	Education	Other
8 new industries in Richmond, Robeson, Columbus, New Hanover, Scotland and Hoke County and 6 industry expansions totaling 720 jobs and \$148,250,000 in capital investment region wide.	Approval of \$30 million marine biotechnology research center at UNC-Wilmington	Biomass facility in Scotland County
17 trade shows, consultant events and recruiting missions, and 4 direct marketing campaigns including biotechnology, food processing and agri-industry, building products and metalworking.	Growth of university/community college partnerships for algae research/product development	Announcement of regional natural gas line
96 leads generated, 185 building and site recommendations, 33 individual company visits, and 70 visits to buildings and sites.	Military Growth Task Force received a Workforce Development Grant for \$900,000 to fund the Veterans Initiative Project designed to provide tuition support to veterans and military spouses.	
Opening of NC International Logistics Park, availability of 1,000 acre Mid Atlantic Logistics Center		
Military Contractors - Opening of Boeing office near Fort Bragg, defense military industrial park in Fayetteville, military R&D lab in Fayetteville		
Approval of \$30 million marine biotechnology research center at UNC-Wilmington		
Worked with NC Northeast Commission, ECU Center for Sustainable Tourism and New Bern/Craven County Convention and Visitors Center to co-sponsor the Eastern Carolina Sustainable Tourism Mini-Summit.		

Completed Regional Growth Management Plan		
Unveiled strategic marketing plan for 2010-2011		
Joined Northeast Commission and Eastern region to form Eastern North Carolina Tri-Regional Heritage Tourism Partnership		
Partnering with NC Small Business & Technology Development Center in BizBoost Program leading to 182 jobs, 4 loans, \$1,150,750 capital formation, 27 federal government contracts valued at \$5,188,083		

APPENDIX C – QUALITY OF LIFE INDICATORS

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C-1 Unemployment Rankings

	County Name	Percent Unemployed
1	Orange - U	5.8%
2	Currituck	6.5%
3	Chatham	6.7%
4	Gates	7.0%
5	Durham - U	7.2%
6	Watauga	7.3%
7	Henderson	7.5%
8	Polk	7.5%
9	Camden	7.6%
10	Wake – U	7.6%
11	Buncombe - U	7.7%
12	Onslow	7.7%
13	Carteret	8.1%
14	Jackson	8.1%
15	Sampson	8.2%
16	Wayne	8.2%
17	Pamlico	8.4%
18	Madison	8.5%
19	Duplin	8.6%
20	Greene	8.6%
21	Hyde	8.6%
22	Moore	8.6%
23	Transylvania	8.7%
24	Haywood	8.8%
25	Perquimans	8.8%
26	New Hanover - U	8.9%
27	Union	8.9%
28	Cumberland - U	9.0%
29	Johnston	9.0%
30	Yadkin	9.0%

C-1 Unemployment Rankings

	County Name	Percent Unemployed
31	Davie	9.1%
32	Forsyth - U	9.1%
33	Franklin	9.2%
34	Hertford	9.2%
35	Hoke	9.3%
36	Pasquotank	9.3%
37	Person	9.3%
38	Stokes	9.3%
39	Craven	9.5%
40	Pitt	9.5%
41	Avery	9.6%
42	Granville	9.6%
43	Jones	9.7%
44	Macon	9.7%
45	Randolph	9.7%
46	Clay	9.8%
47	Cabarrus - U	10.0%
48	Chowan	10.0%
49	Alamance - U	10.1%
50	Guilford - U	10.1%
51	Lenoir	10.1%
52	Mecklenburg - U	10.1%
53	Tyrrell	10.2%
54	Beaufort	10.3%
55	Harnett	10.3%
56	Pender r	10.3%
57	Martin	10.4%
58	Mitchell	10.4%
59	Caswell - U	10.5%
60	Alleghany	10.6%
61	Gaston - U	10.6%

C-1 Unemployment Rankings

	County Name	Percent Unemployed
62	Surry	10.6%
63	Ashe	10.7%
64	Brunswick	10.8%
65	Iredell	10.8%
66	Bertie	10.9%
67	Dare	10.9%
68	Stanly	10.9%
69	Washington	10.9%
70	Davidson	11.1%
71	Yancey	11.1%
72	Lincoln	11.3%
73	Rowan - U	11.3%
74	McDowell	11.5%
75	Montgomery	11.5%
76	Nash	11.5%
77	Rockingham	11.5%
78	Warren	11.5%
79	Wilson	11.5%
80	Bladen	11.6%
81	Northampton	11.6%
82	Cleveland	11.7%
83	Alexander	11.8%
84	Columbus	11.8%
85	Lee	11.8%
86	Robeson	11.8%
87	Wilkes	11.9%
88	Catawba - U	12.1%
89	Halifax	12.1%
90	Vance	12.1%
91	Anson	12.2%
92	Burke	12.4%

C-1 Unemployment Rankings

	County Name	Percent Unemployed
93	Richmond	12.5%
94	Cherokee	12.6%
95	Caldwell	12.9%
96	Swain	12.9%
97	Rutherford	13.7%
98	Edgecombe	14.5%
99	Scotland	15.4%
100	Graham	15.6%

C-2 – Percent Professional

	County Name	Percent Professional
1	Orange – U	51%
2	Durham - U	48%
3	Wake – U	48%
4	Mecklenburg - U	41%
5	Chatham	39%
6	Forsyth – U	37%
7	Pitt	37%
8	Camden	36%
9	New Hanover - U	36%
10	Buncombe - U	35%
11	Guilford - U	35%
12	Union	34%
13	Cabarrus - U	33%
14	Pasquotank	33%
15	Avery	32%
16	Carteret	32%
17	Cumberland - U	32%
18	Henderson	32%
19	Jackson	32%
20	Swain	32%
21	Craven	31%
22	Dare	31%
23	Davie	31%
24	Johnston	31%
25	Macon	31%
26	Moore	31%
27	Watauga	31%
28	Wayne	31%
29	Alamance - U	30.4%
30	Gaston – U	30%

C-2 – Percent Professional

	County Name	Percent Professional
31	Nash	30%
32	Onslow	30%
33	Catawba - U	29%
34	Currituck	29%
35	Franklin	29%
36	Granville	29%
37	Harnett	29%
38	Haywood	29%
39	Beaufort	28%
40	Cleveland	28%
41	Iredell	28%
42	Lenoir	28%
43	Madison	28%
44	Pamlico	28%
45	Scotland	28%
46	Transylvania	28%
47	Washington	28%
48	Wilson	28%
49	Bladen	27%
50	Brunswick	27%
51	Caswell - U	27%
52	Chowan	27%
53	Clay	27%
54	Davidson	27%
55	Greene	27%
56	Hyde	27%
57	Lee	27%
58	Lincoln	27%
59	McDowell	27%
60	Perquimans	27%
61	Person	27%

C-2 – Percent Professional

	County Name	Percent Professional
62	Rowan – U	27%
63	Stanly	27%
64	Tyrrell	27%
65	Warren	27%
66	Burke	26%
67	Cherokee	26%
68	Halifax	26%
69	Hertford	26%
70	Montgomery	26%
71	Rutherford	26%
72	Sampson	26%
73	Surry	26%
74	Vance	26%
75	Yadkin	26%
76	Columbus	25%
77	Hoke	25%
78	Martin	25%
79	Mitchell	25%
80	Randolph	25%
81	Richmond	25%
82	Wilkes	25%
83	Ashe	24%
84	Caldwell	24%
85	Gates	24%
86	Northampton	24%
87	Pender	24%
88	Polk	24%
89	Robeson	24%
90	Rockingham	24%
91	Alleghany	23%
92	Jones	23%

C-2 – Percent Professional

	County Name	Percent Professional
93	Alexander	22%
94	Duplin	22%
95	Stokes	22%
96	Yancey	22%
97	Anson	21%
98	Bertie	21%
99	Edgecombe	20%
100	Graham	19%

C-3 - High School Diploma Holders

	County Name	Percentage with Diploma
1	Dare	92.00%
2	Wake - U	91.00%
3	Orange - U	90.00%
4	Mecklenburg - U	89.00%
5	New Hanover - U	89.00%
6	Craven	88.00%
7	Cumberland - U	88.00%
8	Onslow	88.00%
9	Camden	87.00%
10	Carteret	87.00%
11	Moore	87.00%
12	Buncombe - U	86.00%
13	Durham - U	86.00%
14	Forsyth - U	86.00%
15	Guilford - U	86.00%
16	Henderson	86.00%
17	Watauga	86.00%
18	Cabarrus - U	85.00%
19	Currituck	85.00%
20	Pitt	85.00%
21	Transylvania	85.00%
22	Brunswick	84.00%
23	Iredell	84.00%
24	Macon	84.00%
25	Union	84.00%
26	Chatham	83.00%
27	Davie	83.00%
28	Haywood	83.00%
29	Pender	83.00%
30	Avery	82.00%

C-3 - High School Diploma Holders

	County Name	Percentage with Diploma
31	Beaufort	82.00%
32	Cherokee	82.00%
33	Gates	82.00%
34	Pamlico	82.00%
35	Pasquotank	82.00%
36	Polk	82.00%
37	Alamance - U	81.00%
38	Clay	81.00%
39	Harnett	81.00%
40	Jackson	81.00%
41	Perquimans	81.00%
42	Person	81.00%
43	Wayne	81.00%
44	Catawba - U	80.00%
45	Hoke	80.00%
46	Johnston	80.00%
47	Lee	80.00%
48	Nash	80.00%
49	Stanly	80.00%
50	Swain	80.00%
51	Cleveland	79.00%
52	Franklin	79.00%
53	Granville	79.00%
54	Rowan - U	79.00%
55	Rutherford	79.00%
56	Davidson	78.00%
57	Gaston - U	78.00%
58	Lincoln	78.00%
59	Stokes	78.00%
60	Yancey	78.00%
61	Chowan	77.00%
62	Martin	77.00%

C-3 - High School Diploma Holders

	County Name	Percentage with Diploma
63	McDowell	77.00%
64	Anson	76.00%
65	Ashe	76.00%
66	Columbus	76.00%
67	Hyde	76.00%
68	Lenoir	76.00%
69	Madison	76.00%
70	Richmond	76.00%
71	Rockingham	76.00%
72	Washington	76.00%
73	Wilson	76.00%
74	Yadkin	76.00%
75	Alexander	75.00%
76	Burke	75.00%
77	Caswell - U	75.00%
78	Edgecombe	75.00%
79	Greene	75.00%
80	Mitchell	75.00%
81	Sampson	75.00%
82	Scotland	75.00%
83	Bladen	74.00%
84	Caldwell	74.00%
85	Graham	74.00%
86	Halifax	74.00%
87	Hertford	74.00%
88	Jones	74.00%
89	Randolph	74.00%
90	Warren	74.00%
91	Surry	73.00%
92	Tyrrell	73.00%
93	Bertie	72.00%
94	Vance	72.00%

C-3 - High School Diploma Holders

	County Name	Percentage with Diploma
95	Montgomery	71.00%
96	Wilkes	71.00%
97	Alleghany	69.00%
98	Northampton	69.00%
99	Robeson	69.00%
100	Duplin	68.00%

C-4 – College Degree Holders

	County Name	Percent with College Degree
1	Orange - U	54.00%
2	Wake - U	48.00%
3	Durham - U	44.00%
4	Mecklenburg - U	41.00%
5	New Hanover - U	36.00%
6	Watauga	35.00%
7	Chatham	34.00%
8	Dare	32.00%
9	Guilford – U	32.00%
10	Buncombe - U	31.00%
11	Forsyth – U	31.00%
12	Pitt	29.00%
13	Transylvania	29.00%
14	Moore	28.00%
15	Union	27.00%
16	Henderson	26.00%
17	Jackson	26.00%
18	Polk	26.00%
19	Carteret	24.00%
20	Avery	22.00%
21	Brunswick	22.00%
22	Cabarrus- U	22.00%
23	Craven	22.00%
24	Alamance- U	21.00%
25	Cumberland- U	21.00%
26	Davie	21.00%
27	Camden	20.00%
28	Clay	20.00%
29	Haywood	20.00%
30	Iredell	20.00%
31	Macon	20.00%
32	Catawba- U	19.00%
33	Johnston	19.00%
34	Madison	19.00%

C-4 – College Degree Holders

	County Name	Percent with College Degree
35	Nash	19.00%
36	Pasquotank	19.00%
37	Swain	19.00%
38	Lee	18.00%
39	Alleghany	17.00%
40	Ashe	17.00%
41	Beaufort	17.00%
42	Gaston- U	17.00%
43	Lincoln	17.00%
44	Onslow	17.00%
45	Pender	17.00%
46	Wilson	17.00%
47	Chowan	16.00%
48	Cleveland	16.00%
49	Harnett	16.00%
50	Rowan- U	16.00%
51	Wayne	16.00%
52	Yancey	16.00%
53	Burke	15.00%
54	Cherokee	15.00%
55	Currituck	15.00%
56	Davidson	15.00%
57	Hertford	15.00%
58	Mitchell	15.00%
59	Pamlico	15.00%
60	Perquimans	15.00%
61	Rutherford	15.00%
62	Scotland	15.00%
63	Stanly	15.00%
64	Franklin	14.00%
65	Hoke	14.00%
66	Lenoir	14.00%
67	Surry	14.00%
68	Caldwell	13.00%

C-4 – College Degree Holders

	County Name	Percent with College Degree
69	Granville	13.00%
70	McDowell	13.00%
71	Montgomery	13.00%
72	Northampton	13.00%
73	Person	13.00%
74	Randolph	13.00%
75	Robeson	13.00%
76	Rockingham	13.00%
77	Warren	13.00%
78	Alexander	12.00%
79	Bladen	12.00%
80	Gates	12.00%
81	Halifax	12.00%
82	Hyde	12.00%
83	Martin	12.00%
84	Sampson	12.00%
85	Vance	12.00%
86	Washington	12.00%
87	Wilkes	12.00%
88	Caswell- U	11.00%
89	Columbus	11.00%
90	Greene	11.00%
91	Richmond	11.00%
92	Stokes	11.00%
93	Yadkin	11.00%
94	Bertie	10.00%
95	Duplin	10.00%
96	Edgecombe	10.00%
97	Jones	10.00%
98	Graham	9.00%
99	Anson	7.00%
100	Tyrrell	7.00%

C-5 – Percent Uninsured

	County Name	Percent Uninsured
1	Tyrrell	28.80%
2	Hyde	26.80%
3	Duplin	24.60%
4	Greene	24.60%
5	Watauga	24.20%
6	Sampson	24.00%
7	Robeson	23.90%
8	Montgomery	23.60%
9	Onslow	23.40%
10	Warren	23.30%
11	Alleghany	23.20%
12	Vance	22.80%
13	Anson	22.30%
14	Halifax	22.30%
15	Hoke	21.90%
16	Wilson	21.90%
17	Northampton	21.70%
18	Washington	21.60%
19	Hertford	21.50%
20	Lee	21.50%
21	McDowell	21.50%
22	Scotland	21.50%
23	Richmond	21.40%
24	Edgecombe	21.30%
25	Pitt	21.30%
26	Lenoir	21.10%
27	Pasquotank	21.10%
28	Perquimans	21.10%
29	Alamance- U	21.00%
30	Avery	21.00%
31	Pender	21.00%
32	Jones	20.90%
33	Chowan	20.80%
34	Dare	20.80%
35	Clay	20.60%

C-5 – Percent Uninsured

	County Name	Percent Uninsured
36	Jackson	20.50%
37	Bertie	20.40%
38	Columbus	20.40%
39	New Hanover- U	20.40%
40	Cumberland- U	20.30%
41	Harnett	20.30%
42	Pamlico	20.30%
43	Wayne	20.30%
44	Yancey	20.30%
45	Beaufort	20.20%
46	Currituck	20.20%
47	Durham- U	20.10%
48	Mecklenburg- U	20.10%
49	Caswell- U	20.00%
50	Johnston	20.00%
51	Graham	19.90%
52	Brunswick	19.80%
53	Madison	19.80%
54	Franklin	19.70%
55	Gates	19.70%
56	Henderson	19.70%
57	Nash	19.70%
58	Craven	19.60%
59	Carteret	19.50%
60	Forsyth- U	19.50%
61	Guilford- U	19.50%
62	Randolph	19.50%
63	Bladen	19.40%
64	Cherokee	19.40%
65	Chatham	19.30%
66	Ashe	19.20%
67	Catawba- U	19.10%
68	Surry	19.10%
69	Wilkes	19.10%
70	Gaston- U	19.00%

C-5 – Percent Uninsured

	County Name	Percent Uninsured
71	Lincoln	19.00%
72	Rockingham	19.00%
73	Orange- U	18.90%
74	Rowan- U	18.90%
75	Mitchell	18.70%
76	Yadkin	18.70%
77	Cleveland	18.60%
78	Haywood	18.60%
79	Cabarrus- U	18.50%
80	Moore	18.50%
81	Rutherford	18.50%
82	Transylvania	18.50%
83	Davidson	18.40%
84	Granville	18.40%
85	Polk	18.40%
86	Wake- U	18.40%
87	Buncombe- U	18.30%
88	Iredell	18.30%
89	Stanly	18.30%
90	Caldwell	18.10%
91	Martin	18.00%
92	Person	18.00%
93	Union	18.00%
94	Swain	17.80%
95	Burke	17.70%
96	Camden	17.60%
97	Macon	17.40%
98	Davie	17.30%
99	Alexander	16.90%
100	Stokes	16.60%

C-6 – Teen Pregnancy Rate

	County Name	Teen Pregnancy Rate
1	Hertford	55.30%
2	Halifax	47.90%
3	Vance	47.70%
4	Bertie	47.60%
5	Northampton	46.50%
6	Washington	45.20%
7	Edgecombe	45%
8	Scotland	44.90%
9	Richmond	44.30%
10	Lenoir	43.80%
11	Robeson	43.40%
12	Warren	42.60%
13	McDowell	42.20%
14	Anson	41.90%
15	Perquimans	41.30%
16	Jones	40.80%
17	Cleveland	40.40%
18	Greene	40.40%
19	Pamlico	39.90%
20	Columbus	39.50%
21	Swain	39.30%
22	Chowan	38.70%
23	Rowan- U	38.50%
24	Pasquotank	38.40%
25	Gates	38.30%
26	Wilson	38.10%
27	Rutherford	38%
28	Burke	37.40%
29	Rockingham	37.20%
30	Hyde	36.40%
31	Alamance- U	36%
32	Bladen	36%

C-6 – Teen Pregnancy Rate

	County Name	Teen Pregnancy Rate
33	Lee	35.80%
34	Wayne	35.80%
35	Montgomery	35.10%
36	Caldwell	34.90%
37	Brunswick	34.80%
38	Transylvania	34.50%
39	Beaufort	34.40%
40	Nash	34.40%
41	Person	34.30%
42	Franklin	34.20%
43	Stanly	33.90%
44	Gaston- U	33.80%
45	Duplin	33.70%
46	Sampson	33.70%
47	Jackson	33.50%
48	Macon	33.20%
49	Graham	33.10%
50	Randolph	32.60%
51	Carteret	32.55
52	Caswell- U	32.10%
53	Davidson	32.10%
54	Tyrrell	32.10%
55	Harnett	31.60%
56	Cherokee	31.40%
57	Haywood	31.20%
58	Craven	31.10%
59	Cumberland- U	30.90%
60	Forsyth- U	30.90%
61	Granville	30.80%
62	Lincoln	30.80%
63	Guilford- U	30.70%
64	Yadkin	30.60%

C-6 – Teen Pregnancy Rate

	County Name	Teen Pregnancy Rate
65	Pender	30.40%
66	Surry	30.40%
67	Catawba	30.30%
68	Moore	30%
69	Wilkes	29.80%
70	Ashe	29.60%
71	Currituck	29.60%
72	Pitt	29.60%
73	Alexander	29.40%
74	Stokes	29%
75	Buncombe- U	28.60%
76	Madison	28.50%
77	Iredell	28.40%
78	Martin	28.40%
79	Onslow	28.40%
80	Alleghany	28.30%
81	Mitchell	28.30%
82	Polk	28.30%
83	Hoke	28.20%
84	New Hanover- U	27.80%
85	Henderson	27.10%
86	Chatham	26.70%
87	Durham- U	26.20%
88	Watauga	26.1%
89	Cabarrus- U	25.20%
90	Davie	25.20%
91	Yancey	25.20%
92	Johnston	24.80%
93	Dare	24.40%
94	Mecklenburg- U	24.40%
95	Clay	23.30%
96	Avery	23.20%

C-6 – Teen Pregnancy Rate

	County Name	Teen Pregnancy Rate
97	Camden	22.90%
98	Orange- U	22.40%
99	Union	22.30%
100	Wake- U	18.50%

C-7 – Percent 18 – 44

	County Name	Percent 18 - 44
1	Onslow	52.0%
2	Watauga	50.0%
3	Durham - U	45.0%
4	Pitt	45.0%
5	Orange- U	44.0%
6	Hoke	43.0%
7	Mecklenburg- U	43.0%
8	Cumberland- U	42.0%
9	Hyde	42.0%
10	Jackson	42.0%
11	Vance	42.0%
12	Wake- U	42.0%
13	Harnett	41.0%
14	Greene	40.0%
15	Guilford- U	40.0%
16	New Hanover - U	40.0%
17	Granville	39.0%
18	Avery	38.0%
19	Cabarrus- U	38.0%
20	Johnston	38.0%
21	Robeson	38.0%
22	Tyrrell	38.0%
23	Anson	37.0%
24	Forsyth- U	37.0%
25	Franklin	37.0%
26	Alamance- U	36.0%
27	Alexander	36.0%
28	Chatham	36.0%
29	Craven	36.0%
30	Duplin	36.0%

C-7 – Percent 18 – 44

	County Name	Percent 18 - 44
31	Gaston- U	36.0%
32	Iredell	36.0%
33	Pasquotank	36.0%
34	Rowan- U	36.0%
35	Wayne	36.0%
36	Buncombe- U	35.0%
37	Burke	35.0%
38	Catawba- U	35.0%
39	Cleveland	35.0%
40	Currituck	35.0%
41	Davidson	35.0%
42	Hertford	35.0%
43	Lincoln	35.0%
44	Madison	35.0%
45	McDowell	35.0%
46	Randolph	35.0%
47	Richmond	35.0%
48	Sampson	35.0%
49	Scotland	35.0%
50	Wilson	35.0%
51	Caldwell	34.0%
52	Edgecombe	34.0%
53	Lee	34.0%
54	Montgomery	34.0%
55	Pender	34.0%
56	Person	34.0%
57	Transylvania	34.0%
58	Yadkin	34.0%
59	Bladen	33.0%
60	Camden	33.0%
61	Caswell- U	33.0%
62	Columbus	33.0%

C-7 – Percent 18 – 44

	County Name	Percent 18 - 44
63	Davie	33.0%
64	Gates	33.0%
65	Halifax	33.0%
66	Nash	33.0%
67	Rockingham	33.0%
68	Stanly	33.0%
69	Stokes	33.0%
70	Surry	33.0%
71	Union	33.0%
72	Wilkes	33.0%
73	Bertie	32.0%
74	Dare	32.0%
75	Lenoir	32.0%
76	Mitchell	32.0%
77	Rutherford	32.0%
78	Warren	32.0%
79	Alleghany	31.0%
80	Ashe	31.0%
81	Graham	31.0%
82	Haywood	31.0%
83	Jones	31.0%
84	Yancey	31.0%
85	Brunswick	30.0%
86	Carteret	30.0%
87	Chowan	30.0%
88	Henderson	30.0%
89	Martin	30.0%
90	Washington	30.0%
91	Beaufort	29.0%
92	Moore	29.0%
93	Northampton	29.0%
94	Pamlico	29.0%

C-7 – Percent 18 – 44

	County Name	Percent 18 - 44
95	Perquimans	29.0%
96	Cherokee	28.0%
97	Macon	28.0%
98	Swain	27.0%
99	Clay	26.0%
100	Polk	26.0%

C-8 – Median Household Income

	County Name	Median HH Income
1	Wake- U	\$64,008.00
2	Union	\$60,074.00
3	Camden	\$58,480.00
4	Mecklenburg- U	\$55,587.00
5	Chatham	\$55,333.00
6	Currituck	\$55,261.00
7	Cabarrus- U	\$54,274.00
8	Dare	\$52,173.00
9	Davie	\$51,110.00
10	Durham- U	\$49,928.00
11	Johnston	\$49,897.00
12	Orange- U	\$49,836.00
13	Iredell	\$48,234.00
14	Granville	\$48,186.00
15	Lincoln	\$47,859.00
16	New Hanover- U	\$47,644.00
17	Forsyth- U	\$47,438.00
18	Gates	\$47,217.00
19	Carteret	\$46,982.00
20	Moore	\$46,940.00
21	Guilford- U	\$46,100.00
22	Rowan- U	\$45,253.00
23	Henderson	\$44,899.00
24	Person	\$44,381.00
25	Brunswick	\$44,321.00
26	Pasquotank	\$44,319.00
27	Craven	\$44,298.00
28	Alamance- U	\$44,172.00
29	Davidson	\$44,016.00
30	Buncombe- U	\$43,750.00
31	Stanly	\$43,491.00

C-8 – Median Household Income

	County Name	Median HH Income
32	Franklin	\$43,446.00
33	Lee	\$43,330.00
34	Catawba- U	\$43,303.00
35	Nash	\$42,909.00
36	Pender	\$42,760.00
37	Cumberland- U	\$42,733.00
38	Harnett	\$42,369.00
39	Gaston- U	\$42,110.00
40	Onslow	\$41,725.00
41	Hoke	\$41,595.00
42	Alexander	\$41,520.00
43	Hyde	\$40,488.00
44	Wayne	\$40,325.00
45	Stokes	\$39,975.00
46	Beaufort	\$39,817.00
47	Haywood	\$39,676.00
48	Randolph	\$39,642.00
49	Polk	\$39,246.00
50	Wilson	\$38,712.00
51	Greene	\$38,657.00
52	Transylvania	\$38,446.00
53	Macon	\$38,351.00
54	Rockingham	\$38,160.00
55	Yadkin	\$38,105.00
56	Pamlico	\$37,936.00
57	Cleveland	\$37,889.00
58	Chowan	\$37,825.00
59	Perquimans	\$37,798.00
60	Cherokee	\$37,708.00
61	Jackson	\$37,672.00
62	Madison	\$37,500.00
63	McDowell	\$37,374.00

C-8 – Median Household Income

	County Name	Median HH Income
64	Caldwell	\$37,308.00
65	Pitt	\$36,732.00
66	Surry	\$36,511.00
67	Caswell- U	\$36,414.00
68	Burke	\$36,061.00
69	Ashe	\$35,312.00
70	Clay	\$35,089.00
71	Yancey	\$34,949.00
72	Rutherford	\$34,881.00
73	Sampson	\$34,779.00
74	Avery	\$34,676.00
75	Wilkes	\$34,154.00
76	Vance	\$33,874.00
77	Watauga	\$33,801.00
78	Anson	\$33,706.00
79	Duplin	\$33,703.00
80	Jones	\$33,563.00
81	Swain	\$33,272.00
82	Montgomery	\$33,223.00
83	Mitchell	\$33,118.00
84	Washington	\$32,845.00
85	Alleghany	\$32,541.00
86	Columbus	\$32,283.00
87	Lenoir	\$32,188.00
88	Martin	\$32,121.00
89	Scotland	\$31,439.00
90	Hertford	\$30,958.00
91	Bladen	\$30,823.00
92	Edgecombe	\$30,734.00
93	Tyrrell	\$30,313.00
94	Halifax	\$29,681.00
95	Richmond	\$29,403.00

C-8 – Median Household Income

	County Name	Median HH Income
96	Northampton	\$29,349.00
97	Robeson	\$28,426.00
98	Warren	\$27,876.00
99	Graham	\$27,789.00
100	Bertie	\$27,487.00